

TEACHER PREPARATION PROGRAMS OFFERED BY CALIFORNIA'S PUBLIC UNIVERSITIES



CALIFORNIA POSTSECONDARY
EDUCATION COMMISSION



Summary

Supplemental Language to the 1988-89 Budget directed the Commission to review the teacher preparation programs at the University of California and the California State University, assess their relative cost-effectiveness, and comment on the appropriateness of the segments' enrollment projections for them

This report provides an overview of these programs in the two segments and discusses their cost elements, issues of effectiveness, and the appropriateness of their enrollment projections. Following two introductory sections that summarize the report and explain its background, Part Three on pages 5-10 describes the diversity of teacher preparation programs within the University and State University. Part Four on pages 11-12 analyzes their cost components. Part Five on pages 15-16 discusses their effectiveness. And Part Six on pages 15-16 outlines their enrollment plans and projections.

Appendices A and B to the report on pages 17-84 reproduce documents submitted by the University and the State University for the study.

The Commission adopted this report at its meeting on March 6, 1989, on recommendation of its Policy Evaluation Committee. Additional copies of the report may be obtained from the Library of the Commission at (916) 322-8031. Questions about the substance of the report may be directed to Cathrine Castoreno of the Commission staff at (916) 322-8012.

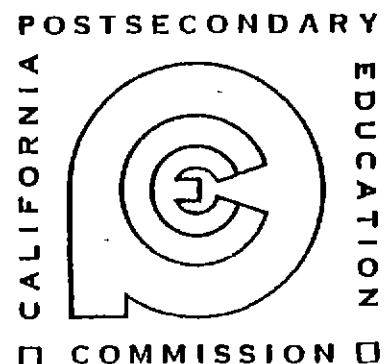
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On the cover Marjorie Woolfork's third grade class, Pleasant Grove Elementary School, 1988-89

TEACHER PREPARATION PROGRAMS OFFERED BY CALIFORNIA'S PUBLIC UNIVERSITIES

*A Report to the Legislature
in Response to Supplemental Language
in the 1988 State Budget Act*

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION
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COMMISSION REPORT 89-12
PUBLISHED MARCH 1989

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Scope of the report

Supplemental Language in the 1988-89 Budget directed the Commission to examine teacher preparation programs at the University of California and the California State University, assess the appropriateness of their enrollment projections, and evaluate their relative cost-effectiveness. In this report, the Commission responds to that mandate. It reviews the history and current status of the programs as well as their enrollment projections, and it concludes that the projections of both the University and the State University are appropriate.

At this time, the Commission has been unable to fulfill the Legislature's request for an analysis of the relative cost-effectiveness of teacher preparation programs within the University and State University because of their diversity and the lack of both cost figures and an evaluative index for comparing the programs.

Ideally, an analysis of cost-effectiveness or efficiency of the programs would measure how well they fulfill their goal, given the resources that they use, in order to identify elements of the programs that require improvement. The common goal of teacher preparation programs at the University and State University is to produce teachers who encourage and motivate children to learn and to mature into productive members of society. Fortunately, a cost-effectiveness analysis is neither the only nor the most important way the State can help these programs achieve that goal most effectively or efficiently. Many ways have already been identified by knowledgeable organizations such as the Achievement Council and Policy Analysis for California Education (PACE) that teacher preparation pro-

grams, the schools, and the State can take in improving the educational system. Such organizations have studied issues important in improving the performance of teacher preparation programs and the education system -- among them:

- What is the best way to prepare teachers for an increasingly multi-cultural, multi-lingual classroom?
- What strategies work best to retain high risk, predominantly non-white students?
- How can the State recruit and retain a diverse and talented teaching staff?

The Commission believes that accurately defining a problem is absolutely necessary to solving the problem, and it concludes that the extensive resources that the State would need to fund a cost-effectiveness analysis of teacher preparation could better be used to help solve the problems and support the solutions that a decade of study has already identified.

Contents of the rest of the report

Part Two of this report presents the background and limitations of the inquiry, Part Three then describes the programs at the University and State University, Part Four lists cost components of these programs, Part Five discusses the effectiveness of the programs, and Part Six summarizes and comments on the appropriateness of their enrollment projections.

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Background on the Report

IN the 1988-89 Budget, the Legislature approved an increase in enrollment for the University of California's teacher preparation programs but included the following Supplemental Budget Language

The California Postsecondary Education Commission, in consultation with the University of California (UC), the California State University (CSU) and the Commission on Teacher Credentialing (CTC), shall examine the teacher preparation programs offered by the UC and CSU and report on the relative cost-effectiveness of the programs. The CPEC shall consult with UC, CSU, and the CTC on the appropriate measures of program effectiveness. This report shall also include the projected growth in these programs and comments on the appropriateness of these projections. The report shall be submitted to the legislative fiscal committees and the Joint Legislative and Budget Committee by March 1, 1989.

In response, this report provides a general description of teacher preparation programs in California's public universities, a delineation of cost components that must be considered when assessing the resources used by those programs in each segment, a discussion of program effectiveness, and a review of enrollment projections for these programs. The Commission was unable to undertake a thorough analysis of relative cost-effectiveness of the programs due to a lack of data on program costs and of a common evaluative index as well as the great diversity of teacher preparation programs offered by both segments.

Process

As directed by the Legislature, the Commission consulted with representatives from the University of California, the California State University, and the Commission on Teacher Credentialing to gain their insights before preparing the report. Thus the

report reflects advice and information provided by the two segments and the Commission on Teacher Credentialing.

In addition to gathering written information on the programs, Commission staff visited the Riverside and Santa Cruz campuses of the University of California and the Hayward and Humboldt campuses of the California State University.

Limitations

This report has several limitations. As previously noted, it does not include an analysis of the relative cost-effectiveness of teacher preparation programs for two major reasons:

- Cost-per-student data do not exist. According to officials of both segments, their analysts would need a length of time beyond the parameter of the report to develop a definition of cost per student that would permit meaningful comparisons.
- A commonly agreed-on definition of effectiveness does not exist. While regulatory organizations such as the National Council for Accreditation of Teacher Education and California's Commission on Teacher Credentialing provide detailed lists of the components, policies, and activities that a good program should include, neither they nor any other authority provide a standardized means of assessing the relative performance of programs in implementing those components, policies, and activities.

Moreover, the report focuses on the professional preparation component of basic single-subject, multiple-subject, and bilingual/cross-cultural credential programs. Counting these programs as well as special administrative, and service credential programs, California's public universities offer about two dozen different types of credential programs. Because of the time and resource constraints associated with the study, the Commission has limited its

scope to the most common and needed credential programs and within them, to their professional preparation component. Since it is the most standardized part of the programs, the professional preparation component provides the greatest opportunity for comparison.

Finally, consistent annual data available on even the professional preparation component of the programs are sparse. As a result, data used to describe them reflect a variety of academic years.

THE Legislature's request for an analysis of programmatic cost-effectiveness assumes that teacher preparation within and between the segments are similar enough to allow for comparison. However, the Commission has found that the great variation among teacher preparation programs presents a challenge to that assumption. Teacher preparation programs exist in a historical, regulatory, and organizational context that allows and fosters great variation among them. In this section of the report, the Commission briefly traces the origins of teacher preparation in California's public education system, the State's requirements for teachers and programs, and the current status of teacher preparation programs in both the University and State University.

Two systems of teacher preparation

California's two public universities entered into the business of teacher preparation as a result of historical evolution, not explicit public policy. The existence of teacher preparation programs in both systems did not become a matter of policy until the 1960 Master Plan for Higher Education. In that plan, policy makers sought to differentiate the function of the University and the State University but allowed both segments to continue to prepare teachers in response to the demand for them at the time.

California created eight normal schools -- single-purpose institutions typically unaffiliated with colleges and universities -- over a span of 56 years between 1857 and 1913, and such schools were the precursors of some of today's 28 campuses of the University and the State University. During the 1800s, most elementary school teachers received their career training in such schools, while the preparation of secondary teachers was considered a function of liberal arts colleges.

In 1868, California assigned the responsibility of

preparing secondary school teachers to the newly created University of California at Berkeley. Throughout the rest of the nineteenth century, the number of students seeking education beyond eighth grade began to rise, which resulted in an increased need for secondary school teachers. Partly in response to the competition from liberal arts colleges, normal schools expanded their curriculum to include more liberal arts subjects and hired faculty members from liberal arts institutions. The new academic departments eventually became influential in shaping teacher preparation programs, and the orientation of the liberal arts college crept into the normal schools, thereby resulting in their eventual transformation into teachers colleges?

Legislative action in 1921 changed California's normal schools to teachers colleges and transferred their control from local boards of trustees to the State Department of Education. Since then, the teachers colleges' single purpose of preparing educators has given way to a broadened role, and they have grown into multi-purpose universities. In 1924, the teachers college in Los Angeles became the University of California, Los Angeles. In 1935, legislative action changed the remaining "teachers colleges" into "state colleges." In 1944, the Santa Barbara State College became the University of California, Santa Barbara. By 1960, the remaining state colleges plus a few newly created colleges and the State's polytechnic colleges were grouped into a single system that is now the California State University.

As a result, the history of teacher preparation programs in California varies from program to program, with some having evolved from elementary school programs in normal schools and others, such as that at Berkeley, having always been secondary school oriented. Until 1960, the programs at the State University and University experienced increasingly similar institutional contexts, but in that year, the Master Plan changed the course of that growing similarity by solidifying and promoting differences between the two systems. Thus one

set of teacher preparation programs exists within a system with a strong research emphasis and the other in a system with a strong teaching orientation. The differing goals of the systems result in differences in the goals of the programs themselves. Those within the State University focus their resources on training enough teachers to supply the State's educational need. Those within the University strive to produce theoretical and applied research on education issues in addition to training teachers for California, as is evidenced by a recent report on the nature and purposes of teacher preparation at the University (reproduced in Appendix A).

General requirements in California

Despite the differences in institutional goals, teacher preparation programs in California must respond to the same set of statutes and regulations regarding teachers and programs. Because these statutes and regulations are broadly stated, programs respond to them in different ways. This section presents the requirements the State imposes on both teachers and programs.

Requirements for teachers

With the exception of emergency credentials, the State requires individuals to fulfill the following before allowing them to teach in the classroom with a preliminary credential:

- 1 Baccalaureate degree in a field other than professional education (if the individual is a California graduate)
- 2 Demonstrated proficiency in the subjects to be taught through passage of appropriate subject examination or through completion of an approved subject-matter waiver program
- 3 A program of professional preparation involving the equivalent of one semester student teaching and 45 postgraduate units, and including instruction in U.S. Constitution, and reading
- 4 Passage of the California Basic Educational Skills Test

In order for individuals to enter a teacher preparation program, applicants must take the California Basic Educational Skills Test (CBEST), but the State mandates no minimum test score for their admission to a program.

The State's Commission on Teacher Credentialing grants clear credentials to students who complete, in addition to the above, a fifth year of study beyond the bachelor's degree and complete instruction in health education, special education, and computer education. Students who complete teacher preparation during their last year as undergraduates receive preliminary credentials. Preliminary credentials expire five years after their receipt, at which time their holders must complete the requirements for a clear credential. Clear credentials are valid for five years, to be renewed; teachers must complete professional growth and service requirements.

Requirements for programs

The Commission on Teacher Credentialing is also responsible for applying and enforcing State requirements of teacher preparation programs. It uses 32 standards, listed in Appendix B, to serve as guidelines regarding the basic components, activities, and policies of teacher preparation programs, but it leaves assessment of how well programs meet these standards to the judgment of review teams that recommend what action the Commission should take on a program -- whether approval, probation, or disapproval. These review teams change from one evaluation to another, and so decisions on each preparation program reflect the judgment of different people.

Common characteristics of programs

The State's requirements for teachers and programs serve as basic guidelines but allow human judgment and creativity to play a role in teacher preparation. In fact, the diversity of teacher preparation programs reflects a range of responses to the guidelines. This section of the report provides a snapshot picture of teacher preparation programs at the University and the State University. In a

complete evaluation of cost-effectiveness, all of the programs in the two systems would be described in detail

Eight University campuses and 19 State University campuses offer teacher preparation programs. Both segments provide training in basic, special, administrative and service credential programs. Display 1 below shows the number of single-subject, multiple-subject, and bilingual cross-cultural professional preparation programs that each segment provides. Looking only at professional preparation programs, the University provides 39 programs and the State University 101. The number of programs multiply when looking at teacher preparation programs generally. For example, up to 15 different subject preparation programs may feed into one single subject professional preparation program. These programs exist in a variety of organizational contexts, some within a School of Education, and others in a division, department or center, as Display 2 at the right shows.

DISPLAY 1 Number of CTC-Approved Basic Credential and Bilingual/Cross-Cultural Teacher Professional Preparation Programs Offered by the University of California and the California State University, 1988

	<u>University of California</u>	<u>The California State University</u>
Single Subject	12	28
Multiple Subject	20	56
Bilingual/ Cross-Cultural	<u>7</u>	<u>17</u>
Total	39	101

Sources: University of California, Office of the President, and The California State University, Office of the Chancellor; Commission on Teacher Credentialing, Memo, p. 16.

Display 3 on page 8 juxtaposes the admissions requirements of the two systems. At the University of California, the campuses set the admissions requirements, whereas the systemwide office of the State University sets the minimum admission requirements and gives the campuses the option of setting higher and additional requirements. The goal of both institutions is to admit only qualified

DISPLAY 2 Organizational Context of Teacher Preparation Programs on Campuses of the University of California and the California State University

	<u>University of California</u>	<u>The California State University</u>
School of Education, or Other School	4	17
Division, Department, or Center	<u>4</u>	<u>2</u>
Total	8	19

Source: California Postsecondary Education Commission.

candidates into their programs in accordance with the standards of the Commission on Teacher Credentialing's Category II shown in Appendix B. Because that Commission states its requirements broadly, the standards allow the segments to use different means and measures to assess applicant's qualifications. For example, most University campuses require for admission a 3.0 grade-point average in upper-division or overall undergraduate course work, whereas the State University requires the median grade-point average in the appropriate major.

Display 4 on the following page shows the number of applications and students admitted to the program of both segments by ethnicity. The display shows that the rate of admission is similar to the rate of application by ethnicity. The display also shows that Asian, Black, and Hispanic students apply and receive admission to teacher preparation programs of both segments at markedly low rates. Given the need for greater diversity among California teachers, the Commission views these low rates as distressing and is equally concerned with the lack of diversity among teacher education faculty. The Commission strongly encourages the segments to increase their recruitment efforts of both students and faculty. Display 5 on page 9 shows the enrollment in multiple-subject and single-subject programs for 1986-87. Finally, Display 6 presents the number of credentials recommended in the 1986-87 academic year. These displays show that the numbers, organizational context, overall enrollments, and admission requirements of teacher

DISPLAY 3 *Minimum Admission Requirements for Teacher Preparation Programs at the University of California and the California State University, 1988*

University of California*	The California State University
Baccalaureate degree	Demonstration of the essential level of proficiency in written and spoken English, mathematics, and reading
3.0 grade-point average	Grade-point average within the upper one-half of the undergraduate students classified by discipline or division on each campus
Written recommendations on relevant experience	Demonstration of necessary professional aptitude, personality, and character that satisfy professional standards
	Successful completion of an early field experience in a school setting
	Successful completion of an admissions interview
	Written recommendations

*Some variation in requirements among University campuses exists

Sources: University of California, Office of the President, 1987b, p. 8, and the California State University Teaching Credential Executive Order No. 476

DISPLAY 4 *Number of Applications and Admissions to Teacher Preparation Programs of the California State University, 1986-87, and the University of California, 1987-88, by Ethnicity*

	The California State University				University of California			
	Applications		Admissions		Applications		Admissions	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Asian	270	2.5%	202	2.7%	81	4.2%	52	4.2%
Black	258	2.3	180	2.4	23	1.2	8	0.7
Hispanic	736	6.7	503	6.6	104	5.3	66	5.4
White	8,046	73.1	5,762	75.6	1,538	78.9	957	77.9
Other	208	2.0	143	1.9	28	1.4	23	1.9
Unknown	<u>1,484</u>	<u>13.5</u>	<u>860</u>	<u>11.3</u>	<u>176</u>	<u>9.0</u>	<u>123</u>	<u>10.0</u>
Total	11,002	100.1%	7,622	100.5%	1,950	100.0%	1,229	100.1%

Sources: The California State University, Office of the Chancellor, 1987, and University of California, Office of the President, 1989, Table 1 (Appendix A of this report)

DISPLAY 5 1986-87 Enrollment in Basic Credential Programs, Including both New and Continuing Students

	<u>University of California</u>	<u>The California State University</u>
Single Subject	405	5,447
Multiple Subject	<u>640</u>	<u>10,823</u>
Total	1,045	16,270

Source Commission on Teacher Credentialing, 1988b, p A-15

DISPLAY 6 Number of Credentials Recommended in 1986-87

	<u>University of California</u>	<u>The California State University</u>
Single Subject	363	3,169
Multiple Subject	<u>637</u>	<u>5,340</u>
Total	1,000	8,509

Note Numbers include recommendations for both preliminary and clear credentials

Source ommission on Teacher Credentialing, 1988b, p A-15

preparation programs differ greatly between segments

Examples of programs

A look at specific programs reveals that the programs also differ greatly from campus to campus within segments. The University of California at Riverside and at Santa Cruz and the California State University at Hayward and Humboldt have each submitted detailed reports of their teacher preparation programs that provide a vivid picture of teacher preparation as it actually exists in the field, and copies of which are available from the Commission. The following paragraphs briefly highlight some of the distinguishing characteristics of these four programs

University of California, Riverside

The teacher preparation program of the School of Education at the University of California, Riverside, emphasizes stability and continuity during its one-year-long curriculum, while preparing candidates for the growing diversity of the classroom environment. Immediately upon entering the program, students begin fieldwork assignments as student teachers in schools where they work for the entire year. One of these schools is Longfellow Elementary, where 15 of the program's 203 current students serve. Longfellow has been a demonstration school for several years because of its multi-ethnic composition. At Longfellow, as at all University of California, Riverside teaching sites, a Supervisor of Teacher Education holds methods classes and seminars for the student teachers. Since these students are assigned to one supervisor and to one school for the entire year, they have the opportunity to develop a stable working relationship with the supervisor, the faculty, and the principal of the school. Moreover, both the students and the faculty have the opportunity to benefit from practical insights into multi-cultural and multi-lingual teaching environments.

University of California, Santa Cruz

In addition to providing continuity, the credential programs at the University of California, Santa Cruz also emphasize maturity in candidates and on average take a minimum of two years to complete. Prior to admission to intermediate and advanced student teaching, all candidates must complete one year of coursework and participate in a written and oral assessment process that determines their readiness to advance to this final phase of student teaching. Students submit written applications that are reviewed by two faculty members. In this process, candidates with significant weaknesses in their preparation are directed away from this phase of the program and encouraged to seek additional coursework or supervised classroom experience as appropriate.

All applicants who meet the criteria are scheduled for an interview with a panel consisting of a Santa Cruz faculty member, a member of the public school community, and a peer who has already been

admitted to student teaching. The purpose of the interview is to assess the applicants' ability to articulate ideas in a professional context and to evaluate their strengths and weaknesses. For example, students in the multiple-subject bilingual, multi-cultural emphasis program must prove their command of a second language and multi-cultural pedagogy in addition to basic teaching skills. After the interview, the panel either recommends admission to intermediate/advanced student teaching for the following quarter, suggests additional work before student teaching, or denies admission to the program.

Assessment and support continues through the student teachers' field assignment and their first year as teachers. The program collaborates with Santa Cruz County schools in various research and pre-service training activities and is the local sponsor of the California New Teacher Project, which provides support to beginning teachers.

California State University, Hayward

The teacher preparation program at California State University, Hayward also places student teachers in classrooms with children from challenging social backgrounds. Hayward is one of the developed urban areas of Contra Costa County, so the children in the schools are exposed to different types of people, professions and lifestyles. They are also exposed to drugs, alcoholism, abuse, and crime, sometimes in their own home. To counter some of this instability, the program emphasizes structure, order, and discipline in the classroom, and it encourages student teachers to make use of support services, such as school counselors, to assist their students.

Since the student population in Hayward is very diverse, teacher preparation program administrators have increased efforts to recruit more minorities into the teaching profession in order to maximize the impact of positive role models. Recent efforts have focused on recruiting children in elementary school to consider teaching as a future career.

Humboldt State University

Humboldt State University sits in a beautiful rural

community. The large geographical region that its teacher preparation program serves is sparsely populated but includes a large number of Native Americans. The teacher preparation program places student teachers in Humboldt, Del Norte, and Trinity Counties, and in Native American reservations within these counties.

While the relatively small service population allows the program to provide individual attention to its students, the geographic isolation presents unique challenges. Most of the children in the region, both white and non-white, have had little exposure to lifestyles other than the predominantly agricultural culture of the area. As a result, they have difficulty recognizing the relevance of the instruction to their lives, since a career as a truck driver, lumberjack, or beautician does not obviously require knowledge of mathematics, science, or literature.

The teacher preparation program at Humboldt State University works to overcome some of the difficulties of geographic and social isolation through programs such as the Indian Teacher Education Personnel Program, which actively recruits Native Americans into the teaching profession and provides training in the skills necessary to intellectually reach the children in their communities as part of the students' preparation in the teacher education program.

Summary

California's public institutions house a total of approximately 150 professional preparation programs in teaching. They vary in their history, goals, and approaches within and between segments, because the State provides guidelines, rather than specific recipes, for programs in recognition that teachers can be trained effectively in more than one way. In fact, California's diverse and numerous educational needs require a variety of programs to serve those needs.

A comparison of the effectiveness of these several hundred programs may be possible despite this diversity, but to assess their relative cost-effectiveness requires a standardized index of effectiveness that allows for their diversity.

4

Cost Components

THE budget language quoted at the beginning of this report asked the Commission to assess program effectiveness in light of program costs. The segments maintain that the limited time available to respond to the legislative request, as well as methodological problems and the cost of developing information systems that would provide the required level of detail, prevented them from providing cost figures. In lieu of dollar figures, however, the segments have provided the following lists of program components that would have to be considered in an assessment of program costs. (Appendix C contains copies of the original lists sent by the segments)

University of California

A Personnel

- Faculty (provide course instruction, advising, supervision, research and evaluation of teacher education)
- Supervisors of teacher education (provide supervision of student-teachers, placement and coordination activities, visits to school sites)
- Administrative staff: Education deans, teacher education directors, program coordinators
- Counseling staff
- Support staff
- Benefits

B Program activities

- Curriculum development (including costs of faculty released time)
- Stipends to classroom master teachers who supervise student-teachers
- Master teacher workshops
- Use of K-12 school resource personnel as consultants and advisory committee members (e.g., to develop curriculum, evaluate programs)
- Research on teacher education
- Program evaluation

- Training of future university teacher education faculty (e.g., by employing and supervising graduate students as supervisors of teacher education)
- Transportation costs of visits to school sites by supervisors of teacher education
- Participation by certain faculty in the schools through faculty released time (This is a State requirement)
- Other special, State-required costs (e.g., development of computer education and facilities coursework)

C Program enrichment costs

- Collaborative activities with the schools, other academic units, and outside agencies
- Special conferences (e.g., on multi-cultural education)
- Grant development and other program reforms (through faculty released time)

D Equipment, materials, supplies and other costs

- Room/space costs
- Maintenance
- Office costs (duplicating, mail, telephone, etc.)
- Office equipment (e.g., word processors, etc.)
- Special equipment (e.g., purchase and maintenance of computers and computer facilities, language labs, videotape equipment)

E Libraries

F Institutional support

- Campus and systemwide management and administration

The California State University

A Instructional costs

- Average class size

- Average number of student teachers supervised per full-time faculty position and average number of students supervised in other required field experiences
- Average student credit units generated by faculty
- Hours per week of faculty contact for each student
- Department chairs
- Faculty development and professional memberships
- Instructional supplies and equipment
- Library and instructional media
- Faculty salaries and benefits levels
- Normal support generated for each faculty position
 - Clerical support for faculty
 - Equipment and furniture
 - Sabbaticals
- Faculty travel for both professional development and supervision, school service, SB 813 faculty participation, etc
- Faculty advisement
- Faculty involvement in admissions process, i.e., interviews
- Student teaching placement coordinators
- Faculty participation in the schools (SB 813)
- Faculty research and service to schools

B Student services

- Advisement
- Credential counseling
- Admissions and exit counseling
- Educational placement centers

C Administration

- Pro-rata share of university costs
- Dean's office professional and support staffing
- Department office professional and support staffing
- Credentials office professional and support staffing and services
- Teacher Education Data System

D Operational costs

- Postage
- Printing
- Supplies and services
- In-state and out-of-state travel
- Facilities and maintenance
- Equipment
- Utilities and telephones
- Contracts

E Program features requiring expenditures beyond their regular faculty staffing

- Computer education requirements
- Extensive field experiences
- Master teacher honoraria
- Master teacher training (scholarships and stipends)
- Collaboration with public schools and academic departments
- State supported special programs
 - New teacher retention in inner city schools
 - Comprehensive teacher institutes
 - Clinical professors program
 - Indian teacher education
 - Brain hemisphere education
 - Child development centers and nursery schools
- Teacher recruitment

F Program evaluation

- Program development and review in response to internal and external requirements and initiatives
- Accreditation
- Commission on Teacher Credentialing program approval preparation and reviews

Summary

While these lists share some cost components, they are not identical. Efforts to assess the relative cost of credential programs would have to develop one standardized definition of program costs based on lists similar to these.

THE 32 standards of the Commission on Teacher Credentialing listed in Appendix B suggest why the teacher preparation education community has not developed a single, formal answer to the question "How do we gauge program effectiveness," and why no simple response is possible. With few exceptions, each of these standards requires further definition before the measurement question can be answered. For example, Standard 8 requires that "the institution determine that each individual has personal qualities and pre-professional experiences that suggest a strong potential for professional success and effectiveness as a teacher."

Before an assessment can take place, the following questions would require answers:

- What personal qualities and pre-professional experiences suggest a strong potential for professional success and effectiveness as a teacher?
- How much potential is strong potential?
- What is the definition of professional success?
- Who is the appropriate person to answer the previous question?

If the answers to these questions could be ascertained, the question would remain to be resolved about how well any program uses these qualities and experiences to predict professional success and effectiveness.

Apply this process of clarification to the following abbreviated list of Commission standards, and the magnitude of the task grows enormous.

Standard 2. Institutional Attention to the Program. The institution gives ongoing attention to the effective operation of each program, and resolves each program's administrative needs promptly.

Standard 4. Qualifications of Faculty. Qualified persons teach all courses and supervise all field experiences in each program of professional preparation.

Standard 11. Candidate Assistance and Retention. The institution identifies and assists candidates who need academic, professional or personal assistance. The institution retains only those candidates who are suited to enter the teaching profession and who are likely to attain the standards of candidate competence and performance in Category V.

Standard 14. Orientation to Human Development and Equity. Prior to or during the program, each candidate is oriented to common traits and individual differences that characterize children and adolescents during several periods of development. Each candidate examines principles of educational equity and analyzes the implementation of those principles in curriculum content and instructional practices.

Standard 15. Preparation for Cross-Cultural Education. Prior to or during the program, each candidate engages in cross-cultural study and experience, including study of language acquisition and experience with successful approaches to the education of linguistically different students.

Standard 30. Capacity to Teach Cross-Culturally. Each candidate demonstrates compatibility with, and ability to teach, students who are different from the candidate. The differences between students and the candidate should include ethnic, cultural, gender, linguistic and socio-economic differences.

The nebulous and ambiguous nature of the qualitative aspect of effectiveness understandably leads some to use the number of teachers produced as the sole index of program effectiveness. The temptation to use just that number grows when considering the massive amount of resources and effort that accompanies the "messiness" involved in the task.

To be clear, these caveats are not a case against inquiring into the effectiveness of programs. Instead, they seek to emphasize that any effort to assess the relative effectiveness of teacher preparation must

confront the complexities of defining and indexing quality and involve sufficient time and resources to execute the task

6

Enrollment Projections

IN response to the Legislature's request for enrollment projections, the Commission presents in this section projections made by each segment in their reports responding to Chapter 777 of the 1984 Statutes, which asked them to project their enrollment and faculty needs in the area of education through the year 2000

The Legislature also asked the Commission to comment on the appropriateness of these projections. Since projections provide numbers that change constantly and only broadly guide actions, in commenting on the appropriateness of the projections the Commission focuses on the assumptions and considerations used by the segments in making the projections rather than the numbers

Projection Assumptions

University of California

The University used the same list of criteria that it applied to graduate enrollments to project its enrollments in teacher preparation, whether the students were postbaccalaureate credential-only students, who are included in undergraduate totals by the University, or graduate students in concurrent degree programs. Display 7 lists these criteria.

Last April, the Commission provided comments on the University's graduate enrollment plan to the Legislative Analyst's Office. The commentary, provided in full in Appendix D, concluded that the University used an appropriate method and set of planning principles to develop its graduate enrollment projections. Since the University projected its teacher preparation program enrollments by using the same criteria that it applied to graduate enrollments, the Commission views the University's projections as appropriate.

DISPLAY 7 Graduate Enrollment Planning Principles of the University of California

- 1 Need for Research
- 2 Future need for advanced training
- 3 Placement
- 4 Balance of students, and teaching to research
- 5 Foreign student balance
- 6 Affirmative action demands
- 7 Selectivity and program quality
- 8 Availability of financial support

Source University of California, Office of the President, 1987a, p. 23-46

The California State University

The context for enrollment planning in teacher preparation at the State University differs from that of the University. First, the State University is not required to project either its graduate or undergraduate enrollment on a regular basis and therefore does not have a formally adopted list of criteria for the purpose of making enrollment projections. Second, one of the State University's primary responsibilities is to serve as the main source of the State's teachers.

In light of that role, the Commission views consideration of the State's needs as appropriate in projecting teacher preparation enrollments at the State University. As shown in Display 8, the State University did consider important needs of the State as indicated by the need for reform and applicant and employer demand.

**DISPLAY 8 Enrollment Planning at the
California State University**

- 1 A national and statewide policy context of reform in teacher education programs, and in the K-12 system generally
- 2 A systemwide call for planning and self study of education programs dating back to 1980
- 3 A demographic context of rapid growth in K-12 enrollments, particularly among minorities, combined with high levels of anticipated retirements in the current teaching force

Source The California State University, Office of the Chancellor, November 1986, p. 11

Current enrollment plans

University of California

The University of California has asked for no increases in postbaccalaureate enrollment for 1989-90. However, the University anticipates a rate of growth of 68 percent between 1986-87 and 2000-01, an increase of approximately 700 students.

The California State University

The State University anticipates an enrollment increase in teacher preparation programs of 1,615 students in its 1989-90 support budget proposal. The increase in enrollment would put its total enrollment for all credential programs combined at 19,190 students. It anticipates a growth in enrollment of approximately 8,600 students -- a 53 percent increase between 1986-87 and 2000-01.

Appendix A

TEACHER PREPARATION PROGRAMS IN THE UNIVERSITY OF CALIFORNIA

**A Report Submitted to
The California Postsecondary Education Commission
March 1989**

By

The University of California, Office of the President

**Principal Staff: Ami Zusman, Principal Analyst
University-School Education Improvement
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I. OVERVIEW: THE NATURE AND PURPOSES OF TEACHER PREPARATION PROGRAMS IN THE UNIVERSITY OF CALIFORNIA

The University of California first offered professional preparation for school teachers at its initial Berkeley campus in 1889. Today, the University offers preparation for entry into the teaching profession (i.e., multiple and single subject credential programs for elementary and secondary school teaching) at all eight of its general campuses. All eight campuses also offer advanced teaching credentials and/or masters degrees in Education in a range of specialties. Four University campuses -- Berkeley, Los Angeles, Riverside, and Santa Barbara -- have graduate schools of education with a panoply of doctoral degree programs, educational research, and public service projects. (See charts.) Even at campuses which do not have graduate schools of education, faculty in psychology, sociology, anthropology, mathematics, chemistry, and other disciplines collaborate with education faculty in research and public service designed to improve teaching and learning in the schools.

The University of California's programs of education are an important component of its teaching, research, and public service missions. As in other research universities, however, faculty commitment toward programs of teacher education has sometimes been ambivalent (Judge, 1982; Clifford and Guthrie, 1988). In its critical 1984 report, the University-wide Program Review Committee for Education (commonly called the "Goodlad Committee") urged the leadership of the University to take the initiative in articulating a comprehensive commitment to elementary and secondary education, including a refocusing on professional preparation. A second University-wide committee in 1984, the Committee on Student Preparation (the "Frazer Committee") urged the University's professional schools of education and campus teacher training programs to attract larger numbers of the most highly qualified students into the University's professional training programs in education. Externally, legislators and other public officials have criticized the University for what was perceived as its inadequate attention to the public schools and particularly to teacher preparation. In response to a legislative request, the University of California also prepared a detailed plan of its enrollments, faculty, and activities in the field of education: University of California Plan for the Field of Education to the Year 2000, 1987. (The California State University prepared a similar plan.)

In response to these recommendations and subsequent discussions, the University has taken a number of steps to promote and improve teacher preparation within UC. These include the appointment of an Assistant Vice President with responsibility to coordinate and promote University-school

improvement, including teacher preparation; the creation of a special unit within the Office of the President to carry out the Assistant Vice President's initiatives; the establishment, on each campus, of campus-wide committees and new initiatives to support teacher preparation and other school-related activities; the development of a network of University Education deans and teacher education directors to address common problems and propose initiatives and responses; the development of a special program of Presidential Grants for School Improvement; and the development of new intersegmental activities, projects, and budget proposals -- such as the minority recruitment projects of the Intersegmental Coordinating Council's Improvement of Teaching Cluster, intersegmental Comprehensive Teacher Education Institutes, and joint multicultural teacher education workshops.

The University of California is not the State's primary preparer of K-12 teachers. That responsibility belongs -- and should belong -- to the California State University. However, UC and CSU programs of teacher preparation have complementary functions. As is described in more detail below, UC programs emphasize features that build on the University of California's special strengths and resources. Typically, for example, these programs are more intensive and more research-oriented than programs offered by other institutions. In addition, the University attracts and trains a highly select group of individuals for the teaching profession. Although UC prepares only about 9% of all newly credentialed teachers in California, these teachers represent some of the best teachers in the state, in terms of academic qualifications, performance on state and national tests, persistence in teaching, and leadership roles in the education profession.

As agreed with the staff of the California Postsecondary Education Commission, this report will focus on basic multiple and single subject teaching credential programs -- i.e., programs to prepare new teachers for elementary and secondary school teaching. This report is divided into seven sections, describing University teacher preparation programs, students, graduates, and faculty, as outlined in the table of contents. In addition, three "case studies" of programs at UC Berkeley, Riverside and Santa Cruz have been forwarded to CPEC and are available upon request. A list of costs associated with teaching credential programs have also been forwarded.

II. REASONS FOR THE UNIVERSITY'S PARTICIPATION IN TEACHER PREPARATION

The University of California continues to be deeply involved in the preparation of teachers for California's public schools, for a number of key reasons:

1. The University is required by law to offer professional preparation for teachers (Education Code 44320). In addition, the Legislature, other public officials, and prominent private-sector leaders have urged the University, along with CSU and independent institutions, to make the preparation of teachers among the highest priorities for institutional and systemwide support.
2. As the State's premier academic institution, UC's participation in preparing elementary and secondary teachers is a critical element in obtaining public recognition of the importance and professional status of the K-12 teaching profession in California.
3. The University's teacher education programs provide opportunities (a) to UC undergraduates to explore teaching careers in conjunction with their undergraduate study and (b) to UC graduates to enroll in programs of teacher preparation.
4. On a number of dimensions -- including integration of research and practice, partnerships with the schools, a curriculum that is strongly sequential and developmental, small class sizes, and excellent clinical supervision, UC teacher preparation programs are among the most desired and most effective programs of teacher preparation in the state.
5. UC programs attract a special group of teacher candidates: those who are both the most academically able and who assume a disproportionate number of leadership roles in the education community -- as mentor and master teachers, leaders in professional organizations, and school administrators. Campus interviews suggest that a number of these individuals are attracted into education because of the University's special programs and would not have enrolled in other institutions.
6. At four UC campuses (and likely at more campuses in the future), UC programs of teacher preparation provide important resources for the clinical training and development of doctoral students who will take positions as college and university teacher education faculty.

7. UC teacher education programs represent essential laboratory resources for University faculty engaged in education research and development -- both those within and those outside of departments of education.
8. Because teacher preparation programs at UC, CSU, and the independent institutions have different missions, serve different clienteles, and offer differing programs, together they help meet the state's multiple objectives for recruiting, preparing, and placing new teachers in California's schools.

III. UNIVERSITY OF CALIFORNIA PROGRAMS OF TEACHER PREPARATION

A. Overall Description of UC Teacher Preparation Programs

The University of California's multiple and single subject credential programs for elementary and secondary school teaching have a number of important common characteristics--many of them unique to UC programs. For example, as will be discussed in more detail below, they offer curricula that are sequential and developmental, integrate research and practice, and provide excellent clinical supervision. Because University faculty have concluded that future teachers need a strong undergraduate academic preparation prior to concentrated professional preparation, UC programs also are, with limited exceptions, postbaccalaureate programs, both in content and in students served. This conclusion that professional preparation in teaching should be postbaccalaureate is shared both by the California Commission on the Teaching Profession ("Commons Commission"), in their 1985 report, Who Will Teach Our Children?, and by national reports prepared by the Holmes Group (Tomorrow's Teachers, 1986) and the Carnegie Forum on Education and the Economy (A Nation Prepared: Teachers for the 21st Century, 1986). (State law requires that teaching credential programs in California be open to undergraduates; in practice, undergraduate general education and academic major requirements at most UC campuses leave little time for undergraduates to pursue a credential program.)

In addition, current State law and regulations by the California Commission on Teacher Credentialing (CTC) impose significant uniformity on all programs of teacher preparation in the State. For example, unless they are approved by the CTC as experimental programs (or, more recently, as alternative programs), teacher preparation programs can require no more than one year full-time of professional preparation for the credential, one-half of which must in be student-teaching; programs must include at least nine semester units of professional education courses -- but no more than nine such units prior to student-teaching; and they must meet 32 CTC standards ranging from prior field experience to lesson planning to study of language acquisition.

Nevertheless, UC teacher preparation programs do differ considerably in emphasis, structure, and size among the campuses -- and sometimes even within a campus. For example, UC Berkeley offers two multiple subjects credential programs--Developmental Teacher Education (DTE) and Educational Research and its Applications (ERA). These programs differ significantly in emphasis and perspective. DTE emphasizes developmental theory as a mechanism to understand and assist the cognitive development not only of K-12 learners but also of

teachers as developing professionals; DTE is a two-year program that leads to both a credential and an M.A. degree. ERA places particular emphasis on the teaching of mathematics and science, areas where elementary teachers frequently are poorly prepared; it can be completed in one postgraduate year of study, with an option of additional study leading to an M.A. degree. Yet another model is UC San Diego's multiple subjects credential program, a campus-wide interdisciplinary program with an exceptionally strong orientation toward multicultural education. UCLA offers a four-quarter sequence (leading to both a credential and an M.Ed.) that provides advanced study in curriculum development, instructional strategies and evaluation techniques and integrates research into classroom practice; two-thirds of UCLA credential students enroll in this program. Several campuses now offer concentrated "internship" programs, where carefully selected individuals, under the supervision of both University and school personnel, begin full-time teaching responsibilities while pursuing the credential.

UC teacher preparation programs differ in structure and schedule as well. While most University credential-only programs are completed in one year of full-time study, some require more time. For example, because of its extensive and sequential field and course requirements, UC Santa Cruz's Graduate Certificate Program takes, on average, one calendar year or two academic years to complete. Most UC programs admit students only in the Fall term, although UC Irvine admits students in Spring as well. Finally, although UC programs are small by comparison with those in the CSU system, they vary in size -- from about 250 students at UC Irvine to about 70 students now at UC San Diego, with even fewer enrollments in individual programs within a campus.

The "case studies" that have been provided for UC Berkeley's DTE program, UC Riverside's multiple and single subject programs, and UC Santa Cruz's multiple subject--bilingual/multicultural emphasis program give detailed descriptions of the admissions process, curricula, student-teaching, multicultural preparation, placement services, and other aspects of teacher education programs in the University of California, as well as identifying some of the unique features of each program.

B. Distinctive Features of UC Teacher Preparation Programs

University of California teaching credential programs have a number of distinctive features that set them apart from other teacher preparation programs in the state. These include the following:

1. A research basis and orientation that is integrated with the practice aspects of the curriculum.

2. Extensive partnerships with local schools for collaborative research and/or service directed to teacher preparation and professional development.
3. Linkages between pre-service and in-service professional development programs for teachers.
4. Sequential and developmental curricula; emphasis on theoretical basis and on grounding in academic disciplines; small class sizes; excellent clinical supervision; and other program characteristics.
5. Use of, and support for, doctoral students who are preparing for positions as college and university teacher education faculty.

1. Research basis and research orientation of UC teacher preparation programs. Because of the University of California's research culture, UC teacher preparation programs are typically more research-based than comparable programs at other institutions. UC programs are expected -- and indeed are under constant scrutiny -- to incorporate recent research findings on teaching and learning into programs for teaching credential candidates. Especially because many University of California faculty are engaged in research on teaching, learning, and schooling issues, the curricula of UC teacher preparation programs are continually revised on the basis of new research. For example, the California Writing Project (CWP), a widely emulated model begun at UC Berkeley, is based on research indicating that experienced classroom teachers who are successful teachers of writing can improve the work of other practitioners through concentrated, peer-teaching activities. This perspective informs the curriculum of Berkeley's pre-service English credential program as well. In addition, findings from the national Center for the Study of Writing at UC Berkeley are regularly presented and discussed in the Berkeley program's teaching methods classes, and the Davis campus reports that the Center's findings have contributed to the curriculum of their English credential program as well. At UC Irvine, faculty from the UCI Reading and Neurolinguistic Clinic teach the reading methods courses for the multiple subjects credential program, bringing the newest research findings to the credential candidates.

University of California programs are also more research-oriented. That is, a number of UC teacher preparation programs are designed to produce teacher-researchers who will continue to observe and learn from their K-12 classes -- and therefore to improve their teaching. UC Santa Barbara describes this as "reflective teaching" and notes: "Credential students must become students of their own teaching. Students must learn to

formulate their own teaching hypotheses based on feedback from colleagues and supervising teachers.... Once students enter the profession the opportunity for external review will be limited, thus the need for self analysis and reflective teaching skills and attitudes." At UC Riverside, student-teachers collaborate in research studies carried out by faculty in their schools; these studies, which are designed to enable students to evaluate what they are learning, as well as to improve teacher education and school practice, are described in the UC Riverside case study. Several campus programs, including UC San Diego and UC Santa Barbara, emphasize the need for credential candidates to be trained in ethnographic skills, to understand better the diversity and complex dynamics in K-12 classrooms. Other programs, including Berkeley's DTE program, require credential candidates to pursue teaching-related research to help them develop professional skills as classroom researchers.

Not only do the integration of research findings into the curriculum and the training of credential candidates as teacher-researchers strengthen UC programs and new teachers' preparation, but these programs advance the University's research mission. Teacher preparation programs provide faculty researchers -- both those within and those outside of departments of education -- with laboratory settings for examining research and development questions related to teacher preparation. Through student-teacher placements, these programs establish contacts that facilitate research access to local elementary and secondary schools for University faculty members. In addition, placement of program graduates in K-12 schools around the state generate networks of school practitioners who are sympathetic to education research. UC Riverside notes that the commitments and credibility it established through its teacher preparation programs was a key element in its ability to launch its new California Educational Research Cooperative in partnership with regional school districts. In addition, because they require continuing engagement with elementary and secondary education, these programs sensitize research faculty to contemporary problems of educational practice that might be alleviated through education research.

Finally, because of its research mission, the University of California has a special role in designing, developing, and assessing teacher preparation programs that are themselves experimental or innovative programs. These are discussed in more detail under Section C.

2. Partnerships with the schools for collaborative research and/or service directed to teachers. All University of California campuses have established partnerships with local

schools for collaborative research or service directed to teacher preparation and professional development. These partnerships benefit teacher preparation programs in several ways. Because they open up new channels for University faculty and K-12 teachers and administrators to discuss teachers' needs and to test out different theories about learning, they are likely to lead to revisions in teacher preparation curricula. They also give University faculty additional opportunities to observe experienced teachers and to assess the strengths and weaknesses of their own graduates. In addition, they may provide opportunities for credential students to gain practice-oriented research skills to help prepare them as teacher-researchers in their own classrooms.

One of the potentially most far-reaching University-school partnerships is the University/Schools Cooperative Research and Extension Program now being formed by UC Davis. This program would apply the model of agricultural research and extension services to the field of education, for school districts within a 50-mile radius of UC Davis. Among other features, the UC Davis program would use "extension specialists," professional consultants with substantial school experience who would help both identify important questions of practice that could be examined by University research faculty and translate research studies into forms that can be used by practitioners in the field. The program is also seen as a resource for strengthening credential students' preparation for conducting classroom research.

University of California campuses have established many other partnerships that strengthen teaching and teacher education. For example, four University campuses -- UC Irvine, UC Riverside, UC Santa Barbara, and UC Santa Cruz -- have developed new partnerships with local school districts in pilot programs to provide support and assessment of beginning teachers during their difficult first year of teaching. One of the expected results of these partnerships is the opportunity to evaluate the preparation that new teachers, including the campuses' own graduates, have received and, as a result, to revise the teacher education programs to address weaknesses identified. UC Berkeley's ERA program will involve student-teachers in a partnership project with local school districts to develop and test science curriculum materials. Other examples of such partnerships are UC Berkeley's SUPER (School University Partnership for Educational Renewal) program, UC Irvine's Project Radius and its Partnership Network, UCLA's Center for Academic Interinstitutional Programs, UC Riverside's California Educational Research Cooperative, and UC San Diego's proposed AAAS-sponsored science and mathematics curriculum renewal effort (Project 2061).

3. **Linkages between pre-service and in-service professional development programs for teachers.** University of California programs link pre-service and in-service teacher development in at least two important ways. First, they utilize the resources of exemplary teachers in professional development programs such as the California Writing and Mathematics Projects, to support the student-teaching experience and to serve as forums for curriculum development. For example, UC teacher preparation programs consciously seek to place student-teachers with Writing or Mathematics Project alumni. Not only have these teachers been identified as exemplary, but, because of their participation in the Projects, they model the kind of teaching approaches that University programs want to promote. At UC Santa Barbara and other campuses, many of the supervisors of teacher education are Writing or Mathematics Project alumni and participants as well. UC Berkeley's SUPER program, UC Irvine's Technology Training for Teachers, and other partnerships also encourage credential students and experienced teachers to talk with one another about a range of issues. In addition, teacher development methods that were created by in-service programs (such as peer-teaching writing institutes) have been incorporated into the pre-service program.

Second, UC teacher education programs and faculty provide continuing support to their graduates and other classroom teachers through in-service activities linked with pre-service programs. For example, UC Berkeley's DTE program has an Masters degree program for current classroom teachers that is integrated with the pre-service program. In the DTE program, pre-and in-service teachers enroll together in core program courses, with experienced teachers contributing their first-hand knowledge of teaching, and pre-service students contributing perspectives gained from their other coursework. Teacher education and other University faculty typically also direct or provide the key resources for the Writing, Mathematics, Science and other professional development projects on their campuses, providing yet another link between pre- and in-service programs.

4. **Other special program characteristics.** University of California programs of teacher preparation are distinguished by additional program characteristics that build on the University's strengths. For example, UC programs are built around sequential and developmental curricula. Because most UC teacher preparation programs are full-time programs, they are better able to develop a coherent and developmental program of study than are programs in which students complete individual course requirements in no particular order over longer periods of time. Another consequence of this full-time approach is that academic and professional coursework is closely integrated with student-teaching assignments in the field.

UC programs also have a strong theoretical emphasis and grounding in the academic disciplines. This theoretical and disciplinary basis reflects both the overall culture and expectations of the University and disciplinary backgrounds of the faculty who teach in these programs.

Because of their relatively small enrollments and full-time nature, UC teacher preparation programs are able to place students in small classes, with relatively low student-faculty ratios. These low student-faculty ratios allow individual attention in instruction, field placement, and field supervision. Moreover, programs frequently further divide students into small cohort groups that remain together during the course of the program. For example, UCLA assigns all credential candidates to one of six teams of students (averaging 30 students each) on their first day in the program. These teams encourage students to build relationships with one another to facilitate sharing of information, classroom experiences, and teaching strategies. These cohorts of students engaged in full-time study encourage students to develop an intensive engagement with their program of study, collegial support systems with their fellow students, and long-term professional relationships.

University of California programs develop excellent clinical and tutorial relationships between credential students and their faculty instructors, partly because of the more individualized nature of the programs and the full-time attendance of the students. UC supervisors provide close and extensive support to the student-teachers they supervise. For example, UC Santa Cruz notes that, during intermediate and advanced student-teaching, each student-teacher is supervised by Santa Cruz faculty at least weekly -- far more than is typical in most teaching credential programs.

UC teacher preparation programs also select master classroom teachers for the student-teaching experience very carefully. Earlier it was noted that UC programs often place student-teachers with teachers who have participated in the California Writing and Mathematics Projects or other University-developed programs to strengthen teaching. In addition, UC programs place student-teachers with graduates of their own programs, thus assuring that students will witness the kinds of teaching that UC programs seek to develop, as well as promoting continuing links with program graduates. At most UC campuses, master teachers also receive clinical training in supervision of student-teachers.

5. Linkages with the doctoral training of teacher educators. As the State's sole public doctoral-granting institution, the University of California prepares doctoral

students for positions as college and university teacher education faculty, many of them at CSU campuses. At four UC campuses (and likely at more campuses in the future), UC programs of teacher preparation provide important resources for the clinical training and development of future teacher education faculty, who will in turn prepare the next generation of public school teachers. UC teacher preparation programs involve these doctoral students in teacher education as researchers, course instructors and teaching assistants, and supervisors of teacher education.

The involvement of these doctoral students in UC teacher preparation programs benefits them, current UC credential students, and the programs in which they will become faculty. At UC Riverside, seven of 15 part-time supervisors of teacher education at UC Riverside are currently doctoral students in Education. All have had at least three years of successful public school teaching, and all have received training for their role as supervisors by the campus's head of teacher education. Their success is evidenced by their faculty placements. According to the campus, of the four students who served as part-time supervisors in 1987-88 and who received their doctoral degrees in June 1988, two are employed as education faculty on CSU campuses, one is a UC Riverside lecturer in education and assistant to the head of teacher education, and the fourth is a lecturer at UCLA and coordinator of a county/UC Riverside program to aid new teachers. Among UCLA doctoral graduates, at least three former students now head teacher education programs at CSU campuses. At UC Berkeley, a number of doctoral students interested in careers as teacher educators or researchers in teacher education have served as part-time supervisors, "apprentice supervisors" or instructors of courses on teaching methods, as part of their doctoral training. Two of four doctoral students who served as apprentice supervisors in UC Berkeley's BAWP program have since been employed as supervisors of teacher education at other universities.

C. Experimental and Innovative Programs of Teacher Preparation in the University of California

Because of its research mission, the University of California has a special role in designing, developing, and assessing teacher preparation programs that are themselves experimental or innovative -- "natural experiments" that promise both high quality preparation and the opportunity to investigate the teacher preparation process. These programs can provide models of teacher education.

All UC programs of teacher preparation share two "experimental" program orientations, as discussed above: (a)

Their design is informed by efforts to refine or reformulate existing theories about the preparation of teachers and the instruction of students, and (b) they are used as laboratory settings for the conduct of research on teaching and learning. However, a number of UC programs have gained particular prominence as programs that test or model alternative conceptions of teacher preparation. UC programs that are unique in content, structure, or students recruited include, among others, the following programs:

-- Berkeley's Developmental Teacher Education (DTE) Program. The two-year DTE program is an evolving program designed to test the educational value of theories of human development through the application of these theories and current research to teaching mathematics, science, and literacy. Among its other special features are five increasingly intensive student-teaching placements and the use of the student-teaching and core program seminars to integrate theory and practice. (See case study materials.)

-- UC Riverside's "center schools" and UCLA's "training centers". At UC Riverside, elementary credential student-teachers are concentrated into a small number of specially selected schools, rather than one or two student-teachers per school. This concentration allows student-teachers to develop a strong sense of collegiality -- and it permits the campus to work together with the entire staff of the school to stimulate instructional improvement. UC Riverside has recently begun to extend this concept to secondary school candidates as well. UCLA's training centers serve a somewhat similar role. At UCLA, student-teachers are placed in a relatively small number of schools with high quality educational programs, large groups of potential supervising teachers, and committed administrators. Some of the older training centers have had working relationship with UCLA since the 1930s. As at Riverside, both the campus and the school benefit from this intensive interaction between the partners. The "center school" or "training center" concept modeled by Riverside and UCLA is congruent with the Holmes Group's recommendation for Professional Development Schools for instruction and research.

-- Several nontraditional programs to recruit individuals with strong mathematics and science backgrounds as public school teachers. A recent RAND study lists programs at both UC Davis and UC Irvine among such innovative programs (Carey, Mittman, and Darling-Hammond, 1988). At UC Davis, the credential/M.A.T. program in mathematics recruits and enrolls university graduates with strong mathematics backgrounds in a two-year program of advanced mathematics and mathematics education study that leads to secondary school mathematics teaching. The UC Irvine New Teachers Project has used practicing mentor teachers to teach summer courses in

curriculum and teaching methods. It also has offered students an option of obtaining a preliminary credential in mathematics or science in six months, or the clear credential in 12 months. University campuses offer several other programs as well. UCLA offers a Joint Program in Mathematics and Education, in which mathematics undergraduates are encouraged to consider secondary school teaching through a program that both assures students admission to the Graduate School of Education and enables them to begin teaching, under the supervision of UCLA and school faculty, while they are pursuing the mathematics credential. UC San Diego offers internship programs for both mathematics and science teaching credentials. Under a special program sponsored by the UC Office of the President, UC San Diego mathematics credential students also provide special tutoring to children in high-minority/low income schools. In addition, through the University-wide Community Teaching Fellowship Program sponsored by the UC Office of the President, several campuses, including Berkeley, Davis, Los Angeles, and Santa Barbara have offered programs to provide teaching experiences to undergraduate mathematics majors, to encourage them to consider teaching.

-- UC Berkeley's Educational Research and its Applications (ERA) Program. As noted earlier, the ERA multiple subjects credential program emphasizes the teaching of mathematics and science, areas where elementary teachers frequently are poorly prepared. ERA also offers single subject credentials in mathematics and science for secondary school teaching. ERA's other innovative features include team teaching, continuous presentation of content through the school year (rather than segmenting subject areas), and bringing together elementary and secondary candidates throughout most of their coursework.

-- UC Berkeley's Bay Area Writing Project (BAWP) English Credential program. The BAWP pre-service credential program places particular emphasis on writing, in addition to reading, as the key to literacy. The BAWP pre-service program has served as a model to show how elements pioneered by the in-service California Writing Project can be adapted to pre-service teacher education, such as writing institutes and the use of peer-teaching.

-- New Teacher Support and Assessment Projects. As noted above, UC Irvine, UC Riverside, UC Santa Barbara, and UC Santa Cruz received State-funded grants for pilot projects to provide support and assessment of teachers during their first year of teaching. The four campuses, working with local school districts, are among only 15 such grants awarded statewide by the State Department of Education and the Commission on Teacher Credentialing. The projects use peer and mentor coaching, electronic networks linking new and experienced teachers and university faculty, special courses and seminars, and other

innovative means to assist new teachers. At UC Santa Cruz, for example, Education students serve as aides, and the program provides special training for teachers of students who are not proficient in English and for teachers working remote, rural areas.

A word of explanation about the meaning of experimental or innovative. For program review purposes, the Commission on Teacher Credentialing distinguishes among "experimental," "alternative," and "regular" programs. CTC's categories, however, do not identify the range of innovative and experimental models offered by University programs. Most of the University teacher preparation programs described above have "regular" status under the CTC program review process, although some have applied for and received "experimental" status. For example, Berkeley's DTE program began as an experimental program under CTC regulations. Because of its success, it applied for and received "regular" program status two years ago.

Further model development and dissemination. It is difficult to know the extent to which innovative teacher preparation models developed by UC programs are in fact being adopted by other teacher preparation programs. Anecdotal evidence suggests that some programs have indeed influenced other programs and curricula in the state. For example, UC Berkeley notes that Mills College and St. Mary's College, among others, are consciously adopting key components of the DTE program. DTE faculty suggest that the program holds considerable promise for replication at other institutions. The curricula and approaches developed by Berkeley's BAWP English credential program have been adopted by other credential programs at Berkeley as well as by programs at other institutions, including UC Davis and UC Santa Barbara. Berkeley's ERA program has influenced K-12 science teaching statewide. According to ERA faculty, methods for science teaching developing in conjunction with the ERA program were important in revising the current state framework for science teaching -- away from science as an additional reading activity and toward science as experimentation. Nevertheless, as part of its distinctive mission in teacher education, the University of California has a responsibility to develop more of its teacher preparation programs as conscious models of experimentation and innovation and to act as a resource for programs in other institutions interested in adopting successful models or program elements. The UC Office of the President is exploring ways to encourage UC teacher preparation programs to develop additional models that build on the University's strengths.

IV. TEACHING CREDENTIAL STUDENTS IN THE UNIVERSITY OF CALIFORNIA

A. Overview: Profile of UC California Credential Students

The "typical" University of California teaching credential student is a highly motivated individual with both an excellent undergraduate academic record and successful experience working with children. She is a white female in her twenties or thirties who has completed her bachelor's degree at a University campus prior to enrolling in the credential program. Often, the credential student completed the undergraduate degree several years earlier and was attracted to public school teaching as a second career. Other students became interested in teaching as seniors in college, although some, particularly those interested in teaching elementary school children, identified their interest earlier and began pursuing teaching-related courses as undergraduates. Because the University of California emphasizes the need for a solid preparation in an academic discipline, the credential candidate most likely completed a bachelors degree in history, mathematics or another academic discipline, rather than a diversified or liberal studies degree. She is a full-time student in the credential program. University-wide, about 15 percent of her classmates are concurrently enrolled in Masters or M.A.T. degree programs in Education, designed to deepen their preparation for teaching. This student almost certainly will complete the credential program and has a very high likelihood of becoming, and remaining, a public school teacher in California.

B. Quality of UC Credential Candidates

Academic records. Because of their perceived quality, their innovative program elements, and the academic reputation of the University of California itself, UC programs of teacher preparation are able to attract students who have strong academic credentials and do extremely well on the State mandated competency test for teachers. Minimum admission standards for UC pre-service teacher credential programs generally require a baccalaureate degree, a 3.0 grade point average (GPA) in upper division or overall undergraduate coursework (out of a maximum 4.0 GPA), and written recommendations regarding previous experience working with children. In fact, however, students in UC's credential programs are well above these minimum requirements. For example, for the four campuses that were able to provide data (Berkeley, Davis, Irvine, and Santa Barbara), the average undergraduate GPA of students enrolling in basic credential programs is 3.3 to 3.4.

SAT scores are also quite high -- often higher than the scores of graduate degree students not just in Education but in other fields as well. At UC Irvine, SAT scores for credential students averaged 511 for verbal and 549 for mathematics for Fall 1977. Compared to SAT scores of all UC Irvine undergraduate and graduate students, the SAT verbal average for teacher credential candidates was the highest of ten aggregated fields of study (e.g. biological sciences, fine arts, humanities, physical science, social science, etc.). SAT mathematics scores for credential candidates placed them fifth in a similar ranking.

Undergraduate institutions. The great majority of students enrolled in UC credential programs completed their undergraduate work at a UC campus or at other academically well regarded colleges and universities. From 53% to 75% of UC credential students received their bachelors degrees at a UC campus (although not necessarily the same campus at which they have enrolled as credential students). The remaining students completed their undergraduate work at a wide range of public and private institutions in California and elsewhere in the nation, many of them highly selective institutions such as Stanford, Smith, Dartmouth, and the Claremont Colleges. From 3% (at Davis and Santa Cruz) to 22% (at Irvine) graduated from a CSU campus. A number of UC credential students graduated from institutions outside California. Many of these students moved into communities near the University campus, sometimes as spouses of UC faculty, staff or employees; others were attracted by the reputation or unique focus of the programs. In either case, teacher placement studies indicate that these individuals will remain in California after they receive their credentials and will contribute to California's pool of teachers.

According to some campus teacher education directors, some of these students would not have entered credential programs-- or at least would not have done so in California -- if University programs were unavailable. For example, some students in Berkeley's Bay Area Writing Project (BAWP) English credential program who were not admitted their first year applied the next year or even the year after that. Some students in Berkeley's Developmental Teacher Education (DTE) program had also applied to programs at UCLA, Columbia, and other out-of-state institutions, but few had applied to CSU programs.

Master teachers' perceptions of student-teachers. Subject matter preparation and academic achievement are only part of the qualifications necessary to be a good teacher, of course. The prospective teacher's effectiveness in the classroom is

also crucial. UC student-teachers get high marks from the experienced master teachers in whose classrooms they are placed. According to campus reports, these teachers typically characterize UC student-teachers as bright, hardworking idealists who make important contributions to pupils' education. For example, at UC Irvine, a 1986 survey of master teachers and school administrators gave high ratings particularly in areas such as teacher communication, the learning process, instructional objectives and lessons, evaluation of student achievement, and reading instruction understanding, skills, and knowledge. At Berkeley, a number of master teachers who work with the BAWP English credential program have stated that they prefer the Berkeley candidates over those from other institutions because "they are better prepared, have a better sense of what to do in English classes, and they are better supervised." According to the Davis campus, master teachers say that they would prefer to work only with student-teachers from UC Davis -- even though local CSU campuses are able to provide higher stipends to participating teachers.

High completion rates. Both because students are carefully selected and because of the characteristics of University credential programs -- small, more personal programs where students typically enroll as part of a cohort, with intensive engagement and strong clinical supervision -- UC credential candidates have exceptionally high completion rates. In a survey of UC multiple and single subject credential programs, over 90% of students enrolled in 1986-87 or 1987-88 at each campus had completed the credential program or were still enrolled. By contrast, for the state as a whole only about one-half of those enrolled in multiple and single subject credential programs complete the programs and are recommended for credentials. As a result, while University of California programs enroll only about 4% of all students in multiple and single subject credential programs statewide, they produce 8-9% of those receiving credentials.

C. Enrollments and Enrollment Projections

Overall applications, admits, and enrollments. University of California programs of teacher preparation receive more qualified applicants than they can serve, and demand for these programs continues to increase. As indicated in Table 1, a total of 1,950 individuals applied to UC multiple and single subject credential programs for Fall 1987 -- an increase of 38% over Fall 1985 applicants. Overall, UC programs admitted 1,229 (63%) of these applicants. The degree of selectivity varies from campus to campus, ranging from a high of 36% to a low of 85%.

Once admitted, a high proportion of these individuals-- 77% for the University as a whole -- enroll in UC programs. For Fall 1987, a total of 1,177 students enrolled in UC programs of teacher preparation, including about 235 continuing students. This is an increase of nearly 18% over credential enrollments in 1985-86. About 56% of students in UC teacher preparation programs are enrolled for the multiple subjects (i.e., elementary school teaching) credential, and 44% for a single subject (secondary school teaching) credential in English, history, mathematics or other subject area. About 12% of UC teaching credential students are concurrently enrolled in an M.A., M.Ed. or M.A.T. degree program. The proportion of UC credential students concurrently enrolled in Masters or M.A.T. programs is expected to increase, as a means to further strengthen students' subject matter or pedagogical preparation for teaching.

Ethnic composition of UC credential students. Too few ethnic minority students are applying for, being admitted to, or enrolling in University programs of teacher preparation. Ethnic minorities constitute 12% of enrollments in UC programs of teacher preparation. This includes about 5% Chicano/Latino and 1% Black students. (See Tables 1 and 2). Although, University-wide, minority candidates are enrolled in the same proportion as they apply to UC programs, these figures cause considerable concern because the programs are not adequately drawing credential candidates who will reflect the ethnic diversity of the K-12 students they will teach. According to the Commission on Teacher Credentialing, ethnic minorities constitute less than 15% of teaching credential enrollments statewide. As briefly discussed in Section VII of this report, UC campuses --as well as the UC Office of the President, in collaboration with CSU, the State Department of Education, and other education segments -- are making vigorous efforts to recruit more minority students into K-12 teaching and to expand the pool of eligible minority students.

Enrollment projections. At present, the University of California is in the process of revising projected UC undergraduate, postbaccalaureate, and graduate enrollments in all areas. Based on the University's draft enrollment projections, we estimate that UC multiple and single subject credential enrollments -- including both credential-only enrollments and concurrent credential/degree enrollments-- will increase from an estimated 1,270 students in 1988-89 to approximately 1417 in 1990-91 and to approximately 1570 students by 1994-95. This increase will maintain the University's present share of teacher preparation in California. (NOTE: These numbers include both credential-only postbaccalaureate students and credential students concurrently

enrolled in Masters programs in Education -- an estimated 12% of total credential students. Concurrent credential/Masters students are not included in UC postbaccalaureate projections. In addition, UC projections are based on academic year averages, which are usually lower than Fall enrollments.)

Projections will, of course, be modified again if further circumstances -- such as changes in enrollment demand, competing needs, or State funding -- warrant. Nevertheless, these are the best available projections at this time.

The University of California's credential enrollment projections are based on a combination of factors: (1) State needs for additional well-qualified teachers; (2) demand, as indicated by qualified applicants; (3) constraints on resources; and (4) the University's recognition that, while CSU is the State's primary preparer of teachers, UC has a distinct role in teacher preparation (as discussed throughout this document) and thus should continue to prepare its share of the State's teachers.

(1) State needs: According to a study by PACE (Policy Analysis for California Education), California will need 15,000 to 17,000 appropriately qualified new teachers each year through 1989-90, and about 16,500 to 19,700 new teachers each year between 1990-91 and 1994-95; even more teachers will be needed if proposed educational reforms are implemented. Only a small portion of this demand will be met by teachers from out of state (Cagampang et al., 1986). Fewer than 12,000 individuals are currently receiving multiple or single subject credentials in California. Moreover, qualified teachers in fields such as mathematics, science, and foreign language are in particularly short supply -- and, in the near future, history and English teachers may be as well (PACE, 1988). Because of its strengths, the University of California is in an excellent position to assist in these efforts.

(2) Demand: As noted above, the number of well qualified applicants for UC credential programs far outstrips available slots.

(3) Constraints on resources: Despite both clear State need and expected high demand, the University faces resource constraints and competing needs. In the past, most UC credential students were classified as graduate enrollments. As such, enrollments were sharply limited, for two reasons. First, graduate enrollments are planned on the basis of several factors (including disciplinary balance, research opportunities, job market predictions, and the appropriate proportions of undergraduate, graduate, professional, and academic core enrollments). Second, graduate enrollments have been subject to considerable State funding constraints over the

past decade. Recognizing both that credential programs are significantly unlike graduate degree programs and that it had a commitment to contribute to meeting the State's need for new teachers, the University of California now identifies credential-only enrollments as postbaccalaureate enrollments (a subcategory of undergraduate enrollments). This classification should give teaching credential programs somewhat greater flexibility to expand, since they will not be competing with doctoral programs in physics or history for the limited number of graduate slots. Nevertheless, credential enrollments will still be constrained by overall limits on campus enrollment size, by limits on those credential students (about 12%) who concurrently enroll in graduate degree programs, and by recognition of UC's important but finite responsibility in teacher education.

(4) University share of responsibility for teacher preparation: Given the above factors, the University of California is committed to maintaining its current level of responsibility for preparing teachers for California's schools. In 1986-87, UC recommended 1,000 (8.5%) of the newly credentialed teachers in California -- a slight percentage drop from previous years (California Commission on Teacher Credentialing, 1988). As noted, California is expected to need about 16,500 to 19,700 new teachers per year, and possibly more, between 1990-91 and 1994-95. If we average these estimates, 18,100 new teachers will be needed per year. Thus, for the University of California simply to maintain its traditional 9% level of responsibility for California's teacher supply, it will need to increase credential enrollments to about 1630 per year by 1994-95. UC plans will fall slightly short of this. As noted above, UC plans to enroll about 1570 students in elementary and secondary credential programs by 1994-95 -- about 8.7% of the total new teachers expected to be needed.

V. GRADUATES OF THE UNIVERSITY OF CALIFORNIA'S TEACHER PREPARATION PROGRAMS

A. Placement in Teaching Positions

The University of California is highly successful in placing its graduates in teaching positions. Roughly 80-85% of 1986-87 UC program graduates who received credentials took jobs as teachers, according to campus reports. In addition, some graduates are still enrolled for more advanced Education study, and others have taken other education employment. (See Table 3.) This is substantially above the estimated 50% placement rate for teacher candidates statewide (Cagampang, et. al., 1986).

B. School Administrators' Perceptions of UC Graduates Hired as Teachers

Principals and other school administrators who employ UC credential graduates give them high grades. According to a survey by UC Riverside of local school district personnel directors, 75% of the districts rated UC Riverside graduates as "among the best" and the remaining 25% rating them "above average," compared to new teachers from other programs. For the past 10 years or so, UC Davis has asked principals to evaluate the performance of new teachers they employed or supervised. According to the campus, ratings of UC Davis graduates have been extremely high in all areas, including classroom management, classroom planning and evaluation, working with diverse student populations, and contributing to the school and faculty. In addition, according to the campus, at job fairs, "almost to a person, [district recruiters] rate the teacher credential candidates from the Davis campus as among the best they have seen, and often offer them a contract on the spot." Similar responses were expressed by Santa Barbara, Berkeley, and other UC campuses.

C. Retention in the Field of Education

Data on how many UC graduates continue to teach, or remain in the broad field of education, are difficult to obtain. Graduates leave the area and do not inform campus personnel. They change their names. They drop out of teaching for child rearing for several years before re-entering teaching.

Nevertheless, partial data from UC campuses suggest that a higher proportion of UC graduates hired as teachers than of graduates of other credential programs are still teaching three or more years later. For example, at UC Riverside, a survey of

12 local school districts found that no or few UC Riverside graduates left within five years of being hired. At UC Irvine, approximately two-thirds of students who graduated three years earlier and over half of those who graduated five years earlier are currently teaching in Orange County. (Data on graduates teaching outside Orange County are not available.) At Berkeley, 58% of DTE students who graduated three to six years earlier are still teaching, and another 18% have entered other areas of education (e.g., school administration); thus, a total of 76% remain in the field of education. According to informal data from Berkeley's BAWP program, only 15-20% of BAWP graduates drop out within the first five years; BAWP faculty report that most drop out because of difficult first and second year teaching assignments or lack of collegial or administrative support. By contrast, the Commission on Teacher Credentialing reports that surveys indicate that more than 30% of California's teachers leave the profession within three years and that, nationwide, an estimated 50% of teachers quit within five years.

D. Leadership Roles Assumed by UC Credential Graduates

University of California teacher preparation programs attract students who are interested in leadership roles in the teaching profession and in the schools. Anecdotal evidence suggests that, because of their unique program elements and the status of the University itself, UC programs prepare individuals who assume a disproportionate number of leadership roles in the education community -- as mentor and master teachers, leaders in professional organizations, and school administrators. Campus interviews suggest that a number of these individuals are attracted into education because of the University's special programs and would not have enrolled in other institutions.

For example, UC San Diego has the smallest teacher preparation program in the University. Out of the 400+ teachers the program has graduated since it began, it counts among its graduates in San Diego County alone about 40 mentor teachers, 50 master teachers, 15 school administrators, 75 individuals active in professional organizations, 30 teachers who have served on professional or government committees, a county "teacher of the year," and the county "Hispanic Teacher of the Year." (Numbers are approximate.) The 1988 California Teacher of the Year is a UC Davis graduate. In 1987-88, a UC Santa Barbara graduate received the coveted Sallie Mae teaching award, only 100 of which are awarded in the U.S. In addition, of the 25 schools in the Santa Barbara and Goleta school districts, 12 have administrators who went through UC Santa Barbara credential and/or graduate administration programs, and the current county superintendent of schools is a graduate of

UC Santa Barbara's administration credential program. In the Riverside Unified School District, over 40% of the principals are graduates of UC Riverside credential programs, as are nearly one-third of the mentor teachers.

Each of the other UC campuses similarly note a large number of graduates who have assumed leadership roles and recognition in education. These include graduates active in professional teaching organizations or appointed, even as fairly new teachers, to State framework and curriculum development committees, master teachers to student-teachers and mentor teachers, participants and co-directors of California Writing Project sites or other professional development programs, principals or district administrators, and teachers of year (sometimes after their first or second year of teaching).

VI. FACULTY WHO TEACH IN THE UNIVERSITY OF CALIFORNIA'S TEACHER PREPARATION PROGRAMS

Faculty who teach in the University of California's elementary and secondary credential programs include Academic Senate faculty (assistant professor, associate professor, professor, and lecturer with security of employment), supervisors of teacher education, and other non-Senate faculty (primarily lecturers). Approximately 15% of UC faculty who teach in these credential programs are minority; 57% of the faculty are female. (See Table 4. Faculty numbers are head count figures.)

Typically, different types of faculty conduct the different functions and components of UC credential programs, based on the skills and knowledge faculty can bring. For example, because they bring extensive and first-hand knowledge about teaching in California's public schools, most of the field supervision of UC student-teachers is conducted by supervisors of teacher education, who are experienced classroom teachers. Some of these supervisors are current teachers or have taken a leave from their schools; others have returned to the University for doctoral study in education. In addition, supervisors and lecturers with special skills often teach methods courses in the teacher preparation programs. (Many of the supervisors also hold lecturer titles.)

Senate faculty often teach courses in educational foundations, theory and discipline-oriented courses in the credential programs. Most of these Senate faculty are in UC schools or departments of Education, although some come from other academic departments, such as sociology, psychology, and mathematics. At UC Santa Cruz, Senate faculty are also deeply involved in the field component of the credential program and participate with supervisors of teacher education in observing and assisting UC student-teachers in the school classroom. Moreover, as the UC Riverside report notes, responsibility for teacher preparation programs belongs with UC Senate faculty, regardless of which faculty members teach the courses. All teacher preparation courses and curricula must be approved by the Senate faculty and its committees. It should also be noted that many Senate faculty who are not currently teaching courses in credential programs are engaged in research on teacher preparation or public service to the schools. Nevertheless, because the student-teaching component generally comprises half of the teacher preparation program, and because traditionally teacher preparation has had a lower priority than graduate training or research in UC, relatively few UC Senate faculty are directly engaged in preparing students for public school teaching. This is a matter of concern. As a result of criticism by the University-wide Program Review Committee for

Education as well as other internal University bodies, several UC campuses are making concentrated efforts to increase the involvement of Senate faculty, from throughout the campus, in teacher preparation. These efforts are briefly noted in Section VII.

VII. PROBLEMS AND RESPONSES

This report has noted several University and statewide concerns regarding the preparation and further development of teachers for California's public schools. This section briefly describes some of the responses that the University of California is making to address these problems.

Recruitment of underrepresented minorities into the teaching profession. One of the state's major challenges over the next decade is to recruit and prepare a teaching force that more closely reflects the ethnic diversity of California's schools. This is a difficult task. As career options for minorities have expanded over the past decade, fewer have chosen to pursue public school teaching. In addition, a substantial increase in minority credential enrollments is unlikely until changes are made in conditions largely outside of college and university control -- including better working conditions for teachers, increased salaries, and expanded Federal and State scholarships for those pursuing teaching careers.

Nevertheless, UC campuses and the UC Office of the President, in collaboration with the State's other education segments, have initiated a number of new efforts to expand the pool of eligible minority students in colleges and universities and to recruit more such students into K-12 teaching. For example, the exceptionally strong multicultural emphasis at UC San Diego's teacher preparation program has helped it recruit nearly 21% of its students from underrepresented minority groups. UC Santa Cruz's teacher preparation program has established links with a local community college, which in turn targets minority groups currently working in an educational setting. Beginning this year, UC Riverside will send letters to every minority undergraduate student at UC Riverside, encouraging them to consider a teaching career. UC Davis is considering several program initiatives to recruit and retain underrepresented minority students in its teacher education programs, including proposals for an undergraduate teaching intern program, a financial aid program, and a joint campus-public school program to attract minority persons to teaching. In addition, the University is collaborating with the other members of the Intersegmental Coordinating Council to sponsor a statewide conference in April 1989 to promote faculty diversity at both K-12 and higher education levels. This conference will encourage intersegmental teams to come together to begin planning new programs or activities for recruitment of minority faculty. For the past several years UC has also supported intersegmental budget proposals for UC and CSU to encourage minority high school and community college students to pursue teaching careers, but these proposals have not been funded.

Preparation of teachers for California's culturally diverse classrooms. The scarcity of teachers from minority cultures makes preparing all teachers to teach about California's diverse cultural groups and heritages and to teach to students from diverse cultures, backgrounds, and languages even more necessary. All UC teacher preparation programs include attention to multicultural issues and needs, through curricular study of multicultural education and teaching, placement of student-teachers in classrooms in which the K-12 pupils' backgrounds differ from the student-teacher's, special guest presenters and workshops, and other means. Some campuses have developed model approaches to integrating an understanding of multicultural teaching and learning into the credential program. For example, UC San Diego trains credential students in ethnographic skills, requires a number of courses on language, culture, and class differences, infuses a multicultural perspective throughout methods courses, and utilizes a faculty who are nationally recognized scholars and researchers on multicultural issues. University campuses also offer programs or special workshops to serve current teachers. For example, UC Berkeley's EQUALS program helps teachers overcome their own math phobia and provides them with strategies to encourage more female and minority students to succeed in mathematics and science. The University-administered California Mathematics and Writing Projects devote attention to these issues in their summer programs. Other University-school partnerships, such as UC Berkeley's SUPER project, have developed special programs or workshops on multicultural teaching, learning, and curriculum.

Despite these efforts, new teachers often find themselves inadequately prepared to deal with the wide range of backgrounds, languages, preparation, and expectations of their students. Several obstacles to improving new teachers' multicultural preparation exist. First, given the many requirements for the credential, there is limited time during the credential year to explicitly address multicultural (or gender) issues. Second, agreement does not exist on how best to prepare new teachers, within current constraints, for multicultural classrooms. Third, studies suggest that new teachers may be able to fully appreciate or utilize alternative approaches only after they have been in the classroom for two or three years. To examine these issues, UC Irvine and UC Davis in 1988 each co-sponsored with the Commission on Teacher Credentialing a one-day workshop on multicultural teacher education. As a follow-up to these workshops, UC is working with the CTC and the other education segments to plan a major conference on multicultural teacher education in January 1990. More needs to be done, both for pre-service teachers and perhaps especially for current classroom teachers.

Recruitment into fields with particular teacher shortages. Shortages of qualified teachers will likely continue to be severe in the areas of mathematics, science, and foreign language, according to a 1988 PACE report. Earlier, we noted several UC programs designed to recruit additional students into mathematics and science teaching (see pp. 13-14). These efforts have had some success. Between 1983-84 and 1986-87, UC mathematics credential enrollments increased 51% and those for science credentials increased 42% -- increases much greater than overall UC credential enrollment increases during this period. Moreover, if additional high school requirements are imposed in the humanities, shortages may soon be felt for teachers of history and English as well (PACE, 1988). If so, efforts to recruit more individuals into these subject fields may be needed as well.

Greater involvement of UC Senate faculty in teacher preparation. As a result of criticisms by internal University committees, several UC campuses are making concentrated efforts to increase the involvement of Senate faculty in teacher preparation. In response to the recommendations of the Goodlad and Frazer Committees, campus-wide committees are being established on each UC campus to coordinate the recruitment and academic preparation of teachers, develop new partnerships with surrounding public schools, and encourage Senate faculty involvement in teacher education and in service to the schools. At UC Davis, Senate faculty members both within and outside of the Education Department have played key roles on the campus-wide Teacher Education Coordinating Council and in developing innovative programs such as the M.A.T. in Mathematics and the Community Teaching Fellowship Program. UC Berkeley and UC Santa Cruz have recently hired new Senate faculty who are engaged in teacher preparation.

Development of alternative programs, more appropriate program review, and professional candidate assessment. Despite the diversity of UC teacher preparation programs noted in this report, extensive legislative and regulatory requirements severely limit programs' ability to develop alternative approaches to teacher education, to implement new curricula, or to respond to emerging needs in the schools. In the past, State program review procedures have been criticized as focusing on lengthy checklists of coursework completions which did not identify the quality of either programs or candidates. Indeed, in its 1985 report, the Commons Commission argued that rigid State requirements "tend to stifle innovation in developing teacher education curricula, they fail to prepare teachers adequately for the classroom experience, and they offer no assurance that individuals meeting the requirements are, in fact, ready to teach" (p. 17).

Opportunities to reform the current system now exist. As a result of these and other concerns, in 1988 the Legislature passed SB 148 (Bergeson), a major teacher education reform bill. Although SB 148 was amended shortly before its passage to change many key provisions from statutory requirements to legislative intent, we hope that provisions will be implemented (1) to shift the credentialing emphasis from program approval to candidate-centered assessments, (2) to establish a program accreditation process that emphasizes overall program quality and is more like that in other professions, and (3) to implement a system of professional assessment of teacher candidates that sets high-level standards for entry into the teaching profession. As noted earlier, the State has funded a number of pilot projects, including several at UC campuses, to pilot alternative programs of support and assessment for beginning teachers. Efforts to develop an alternative, more flexible and quality-oriented system of program accreditation will be more difficult, but the University intends to work with the CTC, other higher education institutions, and other interested parties to institute such a system. In addition, a UC task force has been named to explore options for new UC alternative and experimental teacher preparation programs.

Expanded programs of professional development for current classroom teachers. New teachers comprise only a small fraction of the teachers in California's classrooms. Moreover, because of teacher shortages in certain subject areas, many teachers are called upon to teach subjects in which they are not fully prepared. In addition, State law mandates continuing education for teachers. If we are to make significant contributions to the quality of classroom instruction, then, we must give more attention to the continued professional development (and, in some cases, the retraining) of current teachers. The University of California, Berkeley initiated the now statewide California Writing Project, which has served as a model for the California Mathematics Project (also administered by the University) and other curriculum and faculty development projects across the state. The University has recently received authorization and funding to implement a California Science Project, along the models of the Writing and Mathematics Projects. In addition, individual campuses have developed a large number of programs for current teachers, including collaborative efforts between UCLA and the Achievement Council to serve teachers in low-achieving schools, UC Davis's University/Schools Cooperative Research and Extension Program described earlier, and individual campus programs in a number of curricular areas.

Nevertheless, significant gaps remain. For example, no statewide programs comparable to the Writing, Mathematics, and (shortly) Science Projects exist in the areas of history,

social science, or the arts. In addition, expansion of professional development activities for teachers will require both additional funds and a careful assessment by University campuses of their appropriate role in such activities and integration with pre-service education.

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CHARTS AND TABLES

CHART: University of California Education Programs (Summary Chart, Campus Lists and UC Extension Programs)

TABLE 1: University of California Multiple and Single Subject Credential Programs: Applicants, Admits, and Enrollments, by Ethnicity, Fall 1987

TABLE 2: University of California Multiple and Single Subject Credential Enrollments, by Ethnicity and Campus, Fall 1987

TABLE 3: University of California: Percentage of 1986-87 UC Credential Graduates Placed in Teaching Positions

TABLE 4: University of California: Faculty Who Teach in Multiple and Single Subject Credential Programs, by Gender and Ethnicity, Fall 1988

Credential/Degree Programs

UCB UCD UCI UCLA UCR UCSD UCSB UCSC

Basic Credentials:

	UCB	UCD	UCI	UCLA	UCR	UCSD	UCSB	UCSC
Multiple Subject	X	X ¹	X ¹	X	X ¹	X	X	X
Multiple Subject Bilingual/Multicultural	X	X	X ¹	X ¹	X ¹	X ²	X	X
Single Subject		X	X ¹	X ¹	X ¹			

Certificates:

	UCB	UCD	UCI	UCLA	UCR	UCSD	UCSB	UCSC
Graduate								
Resource Specialist Certificate of Competence			X*					X

Advanced Credentials:

	UCB	UCD	UCI	UCLA	UCR	UCSD	UCSB	UCSC
Administrative Services-Preliminary	X		X	X	X		X	
Administrative Services-Professional	X		X	X	X		X	
Agricultural Education Specialist		X						
Bilingual/Crosscultural Specialist		X					X	
Clinical Rehabilitation Services							X	
Early Childhood Specialist								
Pupil Personnel Services	X				X**		X	
Reading Specialist	X				X		X	
School Psychology	X	X			X		X	
Special Education Specialist			X		X		X*	X**
Learning Handicapped Specialist			X					
Physically Handicapped Specialist			X					
Severely Handicapped Specialist			X				X	

	UCB	UCD	UCI	UCLA	UCR	UCSD	UCSB	UCSC
M.A.	X	X		X	X	X	X	X

	UCB	UCD	UCI	UCLA	UCR	UCSD	UCSB	UCSC
M.Ed.		X ³		X			X	

	UCB	UCD	UCI	UCLA	UCR	UCSD	UCSB	UCSC
M.A.T.	X ³	X ³	X ³	X ³				

	UCB	UCD	UCI	UCLA	UCR	UCSD	UCSB	UCSC
Ed.D.	X			X				

	UCB	UCD	UCI	UCLA	UCR	UCSD	UCSB	UCSC
Ph.D.	X ⁴			X ⁴	X		X	

* Program also offered by UC Extension; credential signed off by Department/School of Education

** Program offered exclusively by UC Extension; credential signed off by Department/School of Educ.

1 Both regular and internship programs offered.

2 Internship program only.

3 Offered by or in conjunction with a department other than Education; e.g., Math, Physics, etc.

4 Includes Ph.D. in Special Education offered jointly with CSU.

UNIVERSITY OF CALIFORNIA, BERKELEY
EDUCATION PROGRAMS/DEGREES

Basic Credentials (offered through individual programs, as noted):

Multiple Subject
 Developmental Teacher Education
 Educational Research and its Applications (ERA)
 Single Subject (by subject area):
 English (Bay Area Writing Project)
 Life Science (ERA)
 Mathematics (ERA)
 Physical Science (ERA)

Advanced Credentials:

Administrative Services-Preliminary and Professional
 Pupil Personnel Services*
 Reading Specialist
 School Psychology

M.A.:

California Re-Education Training
 Developmental Teacher Education
 Educational Administration
 Foundations of Curriculum and Teaching
 Human Development and Education
 Language and Literacy (with specializations in: Writing,
 Bilingual Education, Reading, or Reading Disabilities)
 Mathematics, Science and Technology
 Policy and Management Research
 Quantitative Methods and Education

M.A.T.:

English**

Ed.D.:

Educational Administration
 Foundations of Curriculum and Teaching
 Higher Education
 Language and Literacy
 Mathematics, Science and Technology
 Quantitative Methods and Education (Program Evaluation)
 Special Education***

Ph.D.:

Foundations of Curriculum and Teaching
 Higher Education
 Human Development and Education
 Language and Literacy
 Mathematics, Science and Technology
 Policy and Management Research
 Quantitative Methods and Education
 School Psychology
 (SESAME) Mathematics Education
 (SESAME) Science Education
 Special Education***

* Joint program with School of Social Welfare.

** Joint program with Department of English.

*** Joint program with San Francisco State University.

UNIVERSITY OF CALIFORNIA, DAVIS
EDUCATION PROGRAMS/DEGREES

Basic Credentials:

Multiple Subject*
Multiple Subject-Bilingual/Multicultural Emphasis
Single Subject (by subject area):
 Agricultural Education
 English
 Foreign Language
 French
 German
 Spanish
 Government
 History
 Home Economics
 Life Science
 Mathematics
 Music
 Physical Education
 Physical Science
 Social Science

Advanced Credentials:

Agricultural Education Specialist
Bilingual/Crosscultural Specialist
School Psychology

M.A.:

Curriculum and Instruction
Educational Psychology
History and Philosophy of Education

M.Ed.:

Agricultural Sciences
Consumer Studies
Family and Social Organization

M.A.T.:

History**
Mathematics**
Music**

* Both regular and internship programs are available.

** Degrees offered by Departments of History, Mathematics,
and Music respectively.

UNIVERSITY OF CALIFORNIA, IRVINE
EDUCATION PROGRAMS/DEGREES

Basic Credentials:

Multiple Subject*
Multiple Subject-Bilingual/Multicultural Emphasis
Single Subject (by subject area)*:
 Art
 English
 Foreign Language:
 French
 German
 Latin
 Spanish
 History
 Life Science
 Mathematics
 Music
 Physical Science
 Social Science

Graduate Certificate:

Resource Specialist Certificate of Competence**

Advanced Credentials:

Administrative Services-Preliminary and Professional
Special Education Specialist
 Learning Handicapped Specialist
 Severely Handicapped Specialist

M.A.:

English***

M.A.T.:

Spanish****

- * Both regular and internship programs are available.
- ** Program is also offered by UC Extension; credentials signed off by Office of Teacher Education.
- *** Program for teachers offered by the English Department.
- ****Offered in collaboration with the Department of Spanish and Portuguese.

UNIVERSITY OF CALIFORNIA, LOS ANGELES
EDUCATION PROGRAMS/DEGREES

Basic Credentials:

Multiple Subject
Multiple Subject-Bilingual/Multicultural Emphasis
Single Subject (by subject area):
 Art
 Business Education
 English
 Foreign Language:
 French
 German
 Spanish
 History
 Home Economics
 Life Science
 Mathematics*
 Music
 Physical Education
 Physical Science
 Social Science
Single Subject-Bilingual/Multicultural Emphasis

Advanced Credentials:

Administrative Services-Preliminary and Professional
Special Education Specialist
Severely Handicapped Specialist

M.A.:

Education Psychology
Higher Education, Work, and Adult Development
Social Science & Comparative Education
Social Research Methodology

M.Ed.:

Administration, Curriculum and Teaching Studies

M.A.T.:

Astronomy**
Mathematics**
Physics**

Ed.D.:

Administration, Curriculum and Teaching Studies
Education Psychology
Higher Education, Work and Adult Development
Social Science & Comparative Education
Social Research Methodology

Ph.D.:

Administration, Curriculum and Teaching Studies
Education Psychology
Higher Education, Work and Adult Development
Social Science & Comparative Education
Social Research Methodology
Special Education***

* Both regular and internship programs are available.

** Degrees offered by Departments of Astronomy, Mathematics,
and Physics respectively.

*** Joint program with CSU Los Angeles.

UNIVERSITY OF CALIFORNIA, RIVERSIDE
EDUCATION PROGRAMS/DEGREES

Basic Credentials:

Multiple Subject*
Multiple Subject-Bilingual/Multicultural Emphasis
Single Subject (by subject area):
 Art*
 Business Education*
 English*
 Foreign Language:
 French*
 German*
 Spanish*
 Government*
 History*
 Life Science*
 Mathematics*
 Music*
 Physical Science*
 Physical Education*

Advanced Credentials:

Administrative Services-Preliminary and Professional
Pupil Personnel Specialist**
Reading Specialist
Special Education Specialist
 Learning Handicapped Specialist***
 Severely Handicapped Specialist

M.A.:

Curriculum and Instruction
Educational Administration
Education Psychology/Special Education
Special Education
Reading

Ph.D:

Curriculum and Instruction
Educational Administration
Education Psychology/Special Education

- * Both regular and internship programs are available.
- ** Program offered exclusively by UC Extension; credential signed off by School of Education.
- *** Program also offered by UC Extension; credential signed off by School of Education.

UNIVERSITY OF CALIFORNIA, SAN DIEGO
EDUCATION PROGRAMS/DEGREES

Basic Credentials:

Multiple Subject
Multiple Subject-Bilingual/Multicultural Emphasis
Single Subject (by subject area):
 Life Sciences*
 Mathematics*
 Physical Sciences*

M.A.

Teaching and Learning: Curriculum Design
Teaching and Learning: Education Research

* Internship programs only.

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
EDUCATION PROGRAMS/DEGREES

Basic Credentials:

- Multiple Subject
- Multiple Subject-Bilingual/Multicultural Emphasis
- Single Subject (by subject area):
 - Art
 - English
 - Foreign Language:
 - French
 - German
 - Spanish
 - Life Science
 - Mathematics
 - Physical Science
 - Social Science

Advanced Credentials:

- Administrative Services-Preliminary and Professional
- Bilingual/Crosscultural Specialist
- Clinical Rehabilitation Services
 - Audiologist in the Schools
 - Speech, Language & Hearing Specialist
 - Speech, Language & Hearing Specialist - Special Class
 - Authorization for severe language handicapped
- Pupil Personnel Specialist
 - School Counselor
 - School Psychologist
- Reading Specialist
- Special Education Specialist
 - Learning Handicapped Specialist
 - Severely Handicapped Specialist

M.A.:

- Confluent Education
- Crosscultural Education
- Counseling Psychology
- Early Childhood Education
- Educational Policy and Organization
- Educational Psychology
- Instruction
- International Education
- Reading
- Special Education

M.Ed.:

- Confluent Education
- Special Education

Ph.D:

- Confluent Education
- Counseling Psychology
- Educational Policy and Organization
- Educational Psychology
- International Education
- Special Education

UNIVERSITY OF CALIFORNIA, SANTA CRUZ
EDUCATION PROGRAMS/DEGREES

Basic Credentials:

- Multiple Subject
- Multiple Subject-Bilingual/Multicultural Emphasis
- Single Subject (by subject area):
 - Art
 - English
 - Foreign Language
 - French
 - Spanish
 - Life Science
 - Mathematics
 - Music
 - Physical Science
 - Social Science

Graduate Certificate:

- Aesthetic Education
- Bilingual/Multicultural Education
- Child Development
- Curriculum and Instruction
- Education and Public Policy

Advanced Credentials:

- Learning Handicapped Specialist*

M.A.:

- Bilingual/Multicultural Education
- Child Development
- Curriculum and Instruction

* Program offered exclusively by UC Extension; credential signed off by School of Education.

UNIVERSITY OF CALIFORNIA EXTENSION
DESIGNATED SUBJECT AND CERTIFICATE PROGRAMS

BERKELEY	No credentials offered Certificate in Computers in Education Certificate in Teaching English as a Second Language
DAVIS	No credentials or certificates offered
IRVINE	Adult Education Credential Community College Instructor Credential Coursework Certificate in Computers in Education Certificate in Teaching English as a Second Language Language Development Specialist Certificate (Certificate issued by CTC after assessment) Resource Specialist Certificate of Competence*
LOS ANGELES	Adult Education Credential Vocational Education Credential Certificate in Computers in Education Certificate in Early Childhood Education Resource Specialist Certificate of Competence
RIVERSIDE	Adult Education Credential Community College Instructor Credential Coursework Certificate in Computers in Education Certificate in Teaching the Gifted & Talented Language Arts Certificate
SAN DIEGO	Adult Education Credential Vocational Education Credential Community College Instructor Credential Coursework Certificate in Computers in Education Certificate in Early Childhood Education Certificate in Teaching English as a Second Language
SANTA BARBARA	No credentials or certificates offered
SANTA CRUZ	Adult Education Credential Vocational Education Credential Community College Instructor Credential Coursework

* Certificate also offered by UCI's Office of Teacher Education

TABLE 1
UNIVERSITY OF CALIFORNIA

Multiple and Single Subject Credential Programs: Applicants, Admits, and Enrollments¹, by Ethnicity, Fall 1987

	Asian	Black	Chicano/ Latino	White/ Anglo	Other Ethnic Categories	Unknown	Total	Total Minority	Percent Minority
Applicants	81	23	104	1,538	28	176	1,950	236	12.1%
Admits	52	8	66	957	23	123	1,229	149	12.1%
New Enrollments							943		
Total Enrollments ²	45	13	61	905	22	131	1,177	141	12.0%

Percent Applicants Admitted: 63%

Percent Admits Enrolled (New Enrollments): 77%

¹Enrollment data include both credential-only students and credential students concurrently enrolled for a Masters or other degree.

²Total enrollments include both newly enrolled and continuing students.

TABLE 2
UNIVERSITY OF CALIFORNIA

Multiple and Single Subject Credential Enrollments,¹ by Ethnicity and Campus, Fall 1987

Campus	Asian	Black	Chicano/ Latino	White/ Anglo	Other Ethnic Categories	Unknown	Total	Total Minority	Percent Minority
BERKELEY	6	2	--	81	1	3	93	9	9.7%
DAVIS	3	1	1	90	3	--	98	8	8.2%
IRVINE	7	--	12	149	1	69	238	20	8.4%
LOS ANGELES	22	1	11	135	8	8	185	42	22.7%
RIVERSIDE	3	2	15	161	5	51	237	25	10.5%
SAN DIEGO	--	3	7	46	2	--	58	12	20.7%
SANTA BARBARA	1	--	5	117	1	--	124	7	5.6%
SANTA CRUZ	3	4	10	126	1	--	144	18	12.5%
<u>TOTAL</u>	45	13	61	905	22	131	1,177	141	12.0%

TOTAL FEMALE
TOTAL MALE

884 (75.1%)
293 (24.9%)

1. Data include both new and continuing students. Include both credential-only students and credential students concurrently enrolled for a Masters or other degree.

TABLE 3

UNIVERSITY OF CALIFORNIA

Percentage of 1986-87 UC Credential Graduates
Placed in Teaching Positions

<u>Campus</u>	<u>% Placed in Teaching</u>	<u>% in Other Educ. Employment</u>	<u>% Enrolled for Adv.Study</u>
BERKELEY	82%		
DAVIS	87%		
IRVINE	85%		3%
LOS ANGELES	N/A		
RIVERSIDE	97%		
SAN DIEGO	89%		
SANTA BARBARA	79%	4%	10%
SANTA CRUZ (ALL)	49%		
UCSC BILINGUAL	(87%)		

NOTE: Because of the difficulty of obtaining accurate placement information, figures for some campuses are based on samples of graduates. These figures likely underestimate teacher placements. For example, the figure for UC Santa Cruz (all credential students) is based on those graduates who are teaching primarily in the Santa Cruz area, because these are the individuals known to program personnel; graduates who took teaching positions outside the Santa Cruz area are not counted as having been placed in teaching positions.

TABLE 4
UNIVERSITY OF CALIFORNIA
Faculty Who Teach in Multiple and Single Subject Credential Programs,
By Gender and Ethnicity

Senate	Number of Faculty ¹			Gender		Ethnicity				
	Supervisors of Teacher Ed. ²	Other Non-Senate	Total	Female	Male	Asian	Black	Chicano/ Latino	White/ Anglo	Other
44	94	18	156	89	67	4	5	13	133	1
(28%)	(60%)	(12%)		(57%)	(43%)	(3%)	(3%)	(8%)	(85%)	(1%)

1. These are head count figures. All Senate faculty who teach in the credential programs, as well as a number of non-Senate faculty, also teach in graduate degree programs. In addition, Supervisors of Teacher Education and Lecturers are frequently employed half-time or less in the teacher education programs
2. A number of Supervisors of Teacher Education also hold Lecturer titles.

Appendix B

BRIEF

Information Item

**Agenda Item 1
November 15-16, 1988**

COMMITTEE ON EDUCATIONAL POLICY

TEACHER EDUCATION AT THE CALIFORNIA STATE UNIVERSITY — REPORT ON PROGRESS

Presentation By

**Lee R Kerschner, Vice Chancellor
Academic Affairs**

**Ronald S Lemos, Assistant Vice Chancellor
Academic Affairs**

Summary

The progress and achievements of The California State University in the improvement of teacher education programs will be reviewed. Information on teacher education enrollments and student characteristics will be presented. Efforts to interest and enable individuals from ethnic minority groups to enter teaching will be highlighted. Several new programs, including an initiative designed to assess the subject matter competency of prospective teachers, will be summarized. Senate Bill 148 (Bergeson), which sets new directions for credentialing requirements, will also be summarized.

COMMITTEE ON EDUCATIONAL POLICY

TEACHER EDUCATION AT THE CALIFORNIA STATE UNIVERSITY — REPORT ON PROGRESS

Background

The California State University is the State's primary preparer of elementary and secondary school teachers. This simple fact belies the complexity of the ways teachers may be prepared and in the responsibilities attendant to being the State's primary teacher preparation institution. Unlike degree programs, the requirements for credentials are not set by the university but by the State, operating through the Commission on Teacher Credentialing. To become a fully credentialed teacher in California, a student must complete a bachelor's degree in a field other than education, demonstrate knowledge of the subject(s) to be taught; complete a year of professional preparation; complete 30 units beyond the bachelor's degree, and pass the CBEST. For these and other credential requirements, there are many routes and combinations of alternatives. Usually, a new teacher will have attended several institutions in the process of meeting these requirements.

In 1984, The California State University launched a comprehensive effort to improve teacher education programs. This effort was shaped by the study, *Excellence in Professional Education* (1983), developed by a special commission and endorsed by the Board of Trustees. Reports on the progress of these efforts have been presented annually to the Board of Trustees and have been documented in a series of reports, including *A Progress Report: Excellence in the Preparation of Teachers in The California State University* (1984); *In Change Delight. Report on the Progress and Plans for Teacher Education Within The California State University* (1985), and *A Renaissance in Teacher Education* (1987). The 1988 report on progress in teacher education follows. Developments in three major areas are discussed: student enrollments; teacher preparation and recruitment programs; and credentialing legislation.

Student Enrollments

The typical CSU teaching credential candidate is a white, non-Hispanic, monolingual woman, between 25 and 29 years of age. She has completed her subject matter preparation as a Liberal Studies major at a CSU campus. She earned a grade point average above the median grade point average of undergraduates with similar majors and has passed the California Basic Educational Skills Test (CBEST). She entered the professional preparation program as a postbaccalaureate student and seeks a multiple subjects teaching credential authorizing her to teach in self-contained classrooms, normally in elementary schools.

Beyond this very broad pattern lies a host of more complex statistics and trends. Some of those highlighted below are encouraging, while others point to continuing problems.

CSU Students

- Of the credentials recommended by CSU in 1986/87, 45 percent were initial multiple subjects credentials (elementary), 28 percent were single subject credentials (secondary); 12 percent were service credentials (administration, counseling, etc); 10 percent were specialist credentials (special education, bilingual, etc.), and 5 percent were designated subject credentials.

TABLE I*
Multiple Subjects Credentials
Distribution of Credential Recommendations by Postsecondary System

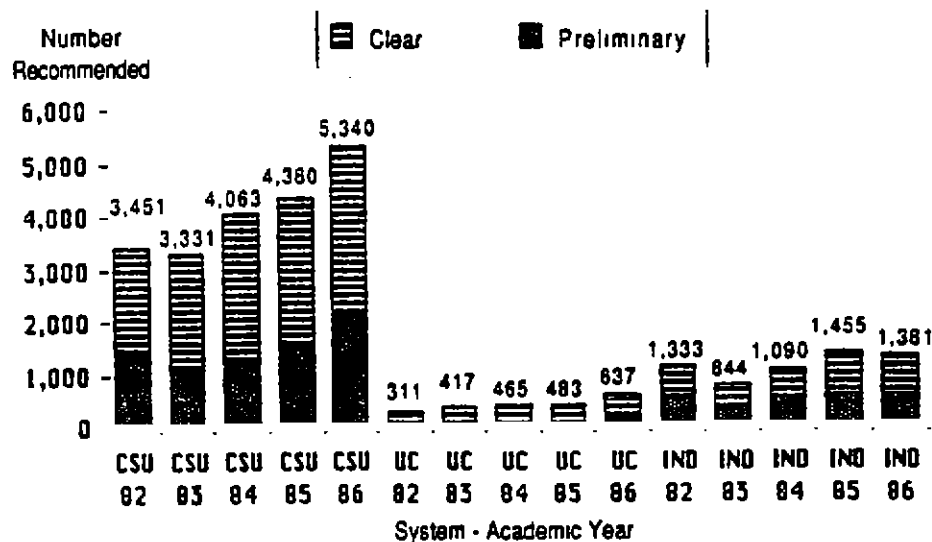
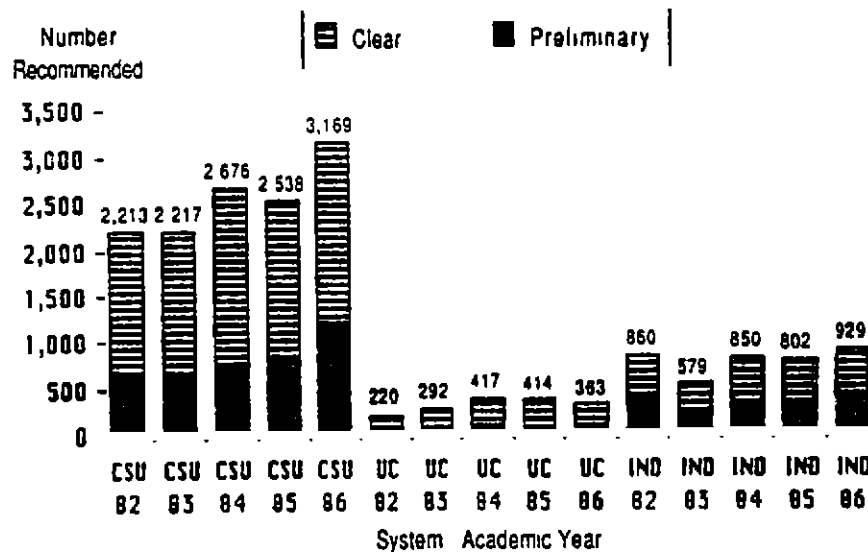


TABLE II*
Single Subject Credentials
Distribution of Credential Recommendations by Postsecondary System



*Report on Teacher Supply, CTC, 1988

- Whites received 84 percent of all credentials recommended by the CSU in 1986/87. Ethnic percentages varied only slightly by credential type. Recent data on *applicants* to teacher education programs indicate a similar distribution. Asians and Blacks constitute about three percent each of all teacher education applicants, admits, and credentials in the CSU, and the proportions of Hispanics range from six percent for single subjects credentials to approximately nine percent for multiple subjects credentials.
- Women received 86 percent of the multiple subjects credential recommendations, 83 percent of the specialist recommendations; 70 percent of the service recommendations, and 53 percent of the single subject recommendations.
- Eighty-two percent of CSU students recommended for teaching credentials are over 25 years of age.
- More than half of the students recommended by the system for basic teaching credentials had received a bachelor's degree at a CSU institution (62 percent for multiple subjects and 54 percent for single subject credentials).
- Almost three-fourths (73 percent) of CSU students recommended for single subject credentials satisfied subject matter competency requirements through enrollment in a CTC-approved California program, for multiple subjects candidates, the percentage was 54 percent. In each instance, the remainder of candidates qualified through passage of a state-adopted, standardized examination.

Statewide Patterns

- As shown in the following tables, the CSU recommends approximately 71 percent of all single subject (secondary) credentials awarded annually in the state, and roughly 69 percent of all multiple subjects (elementary) credentials.
- Statewide enrollments in multiple subjects credential programs increased by 14 percent between 1985/86 and 1986/87 and recommendations for multiple subjects credentials increased by 16 percent. CSU recommendations for multiple subjects credentials increased 54.7 percent between 1982 and 1986, which includes a 22 percent increase between 1985/86 and 1986/87.
- Statewide enrollments between 1985/86 and 1986/87 in single subject credentials programs increased overall by 10 percent, including increases in 10 of the 16 subject areas. Mathematics and life sciences each experienced enrollment growth of about 30 percent. Statewide credential recommendations in single subjects increased by 19 percent, with significant growth occurring in physical science (61 percent), life science (47 percent), mathematics (38 percent), social science (27 percent), English (23 percent), and art (23 percent). CSU recommendations for single subject credentials increased by 25 percent between 1985/86 and 1986/87.
- Seven of the 13 specialist credential programs experienced enrollment declines, including a 21 percent drop in bilingual specialist credential programs.
- The number of candidates recommended for service credentials increased overall by five percent, with the largest growth occurring in pupil personnel and counseling (24 percent).

The encouraging news in the trends reported above is that dramatic increases in teacher education enrollments are being observed in the CSU and statewide. These increases should serve to lessen the projected undersupply of teachers in California for the next decade. Both supply of and demand for new teachers are very difficult to measure with much precision, but it is clear that the supply side of the equation is beginning to look

much better than it did only three years ago. And, there is encouraging evidence in the CSU and elsewhere that the quality and subject matter competence of new teachers is on the rise as well.

The disappointing news is that an absolute growth in numbers may not solve the many problems related to subject, district, and ethnic distributions. Bilingual, science, and mathematics teachers are still in short supply. Urban school districts with large numbers of inner-city schools continue to experience problems in teacher recruitment and retention. And the proportions of minority enrollments in teacher education programs still are far below their current ratios among K-12 student enrollments.

Underrepresented Minority Groups in Teaching

There continues to be concern over the imbalance between the ethnic distribution of the teaching force and the ethnic distribution of the K-12 student population in California. Eighty-four percent of all CSU credential candidates are White. Several CSU campuses have launched specific efforts to interest minority students in the career of teaching. Sample campus projects are described below.

CSU, Dominguez Hills, the Los Angeles Unified School District, and Harbor Community College have been awarded a \$261,000 grant by The Carnegie Corporation to create a model minority teacher recruitment program. The model has been implemented at six junior high schools, three high schools, one community college and one university, all with large numbers of ethnic minority students. The project focus is on the simultaneous development of interest in teaching and academic and interpersonal skills.

CSU, Los Angeles is a primary partner in the Teacher Academy at Crenshaw High School in Los Angeles. In this model program, professors interact directly with students in the Future Teachers Club and guide them in tutoring junior high and elementary students. These tutoring activities, in combination with information and counseling, serve to awaken an interest in teaching and an awareness of the necessary academic preparation.

CSU, Northridge has maintained Operation Chicano Teacher for many years. Recently, Northridge became a partner in Project Socrates with Pierce Community College and three predominantly minority high schools in the Los Angeles Unified School District and two schools in Las Virgenes Unified School District. The Project Socrates model will be adapted to interest ethnic minority high school students in teaching through seminars and teaching internships.

CSU, Bakersfield has developed and implemented *The I Teach Program* in collaboration with two area high schools. In this program, ethnic minority students are exposed to faculty role models who share positive perspectives on the joys and challenges of the teaching profession. Other program features include peer counseling and academic advisement.

Humboldt State University is implementing an innovative Indian Teacher and Educational Personnel Program (ITEPP). The program is designed so that participants acquire knowledge about the customs, duties, practices, expectations, and traditions in non-Indian and Indian schools, receive academic assistance and personal support, and participate in field experiences in the public schools and schools in the Indian communities.

CSU, Long Beach faculty have collaborated with campus outreach staff in the design and implementation of *Careers in Teaching Workshops*. These workshops enable Black, Hispanic and Asian minority youth to envision their cultural and linguistic heritage as professional assets. The contact with faculty role models, coupled with information on the critical need for bilingual and culturally diverse teachers, stimulates interest in the teaching profession. Students also receive academic advisement and financial aid information. More than 1,000 ethnic minority students from schools in Garden Grove, Long Beach, and Santa Ana have participated in these workshops.

The San Diego State University program focuses on changing systemic factors, such as the curriculum, faculty expertise, and the quality of education in predominantly minority K-12 schools. The program also includes activities targeted specifically for minority students, such as outreach, advisement, tutoring, mentoring and networking.

San Francisco State University sponsors a three-way partnership among faculty from the School of Education, staff in university outreach and retention programs and secondary public school educators in San Francisco, Berkeley and Oakland. The program, which began in 1985, is designed to provide academic educational experiences and support that will enable and encourage minority students in high schools and the university to achieve excellence and pursue careers in teaching.

To address the imbalance between the ethnic distribution of public school students and the teaching workforce, The California State University, in conjunction with the State Department of Education, has sought through intersegmental program change proposals for 1986/87, 1987/88, and 1988/89, funds for pilot programs to interest and enable ethnic minority persons to enter teaching. Unfortunately, none of these proposals which would have focused information and support upon minority students in high schools, community colleges, and at CSU campuses has been funded.

The Comprehensive Teacher Institutes, an intersegmental program funded by the State and established at San Diego State University and California Polytechnic State University, San Luis Obispo, have components to interest underrepresented minority persons in teaching and enable them to reach that career goal. In 1988/89, two additional Teacher Institutes with these components will be established at CSU campuses. CSU plans for 1988/89 include adjunct Institute projects to develop materials about teaching for use with high school, community college and university counselors working with minority students and training modules for these counselors.

Yet, it is clear that action will be required to interest and support minority students in becoming teachers even without significant additional funding. Several steps are planned. The CSU is developing policies and expanding programs specifically designed to enable teachers' aides, a group comprised of over 50 percent ethnic minority persons, to become credentialed. Among these efforts is improving program articulation so that teachers' aides may begin their degree work at a community college and then smoothly transfer to a CSU campus to complete their degree and credential programs. Several campuses have specialized programs to assist bilingual teachers' aides to transition to teaching. These programs are supported by federal funds and are located at CSU campuses at Los Angeles, Chico, Bakersfield, Dominguez Hills, and San Bernardino.

The CSU is planning and seeking support for a video targeting high school and postsecondary minority students, which would provide information about the benefits of the teaching profession and the education involved in becoming a teacher.

The Intersegmental Coordinating Council (ICC), representing all educational segments, endorsed a recommendation to devote concerted attention to this area. The CSU will play a key role in the Spring 1989 ICC Statewide Forum on Interesting and Enabling Minority Persons to Become Teachers at All Levels. In addition, the Southern Service Center of the Far West Laboratory (a CSU/Far West Educational Laboratory collaborative), is assisting projects which address the need for ethnic minority teachers.

Program Successes

The All-University Responsibility for Teacher Education is the principle which undergirds the CSU effort to strengthen the preparation of teachers. This initiative is increasing the involvement and collaboration

of education and academic discipline faculty and school professionals for the purpose of enhancing the rigor, relevancy, and status of teacher preparation. Campuses have analyzed the strengths and weaknesses of teacher preparation on the campus, set goals, and made substantial progress in implementing strategies to achieve their goals. Areas of outstanding progress include collaborative decision making, strengthened relationships between the campuses and surrounding school districts, and enhanced visibility and image of teacher education. Chairs of campus All-University Teacher Education Councils met in October of 1988 to assess system progress and plan the future direction of this initiative.

Among the several systemwide initiatives to improve education programs undertaken in the last three years are the New Teacher Retention in Inner City Schools program, Comprehensive Teacher Institutes, Experimental Model Programs in Clinical Supervision, Master Teacher Training programs, and the Clinical Professor project. The New Teacher Retention program at San Diego and the minority recruitment program at Dominguez Hills were recent winners in the 1988 Christa McAuliffe Showcase for Excellence Awards competition sponsored by the American Association of State Colleges and Universities (AASCU). San Diego's Teacher Education Institute was also recognized for its efforts to involve the entire university in teacher preparation programs.

The discussion below is limited to three of the most notable systemwide initiatives

Teacher Retention

In 1986/87, the Board of Trustees and the State Department of Education secured intersegmental funding to establish the New Teacher Retention in Inner City Schools program. This funding was augmented for 1988/89. The program has two major objectives: to improve the retention rates of beginning teachers in inner city schools and to improve their teaching skills, particularly among Black, Hispanic, and limited English speaking student populations.

San Diego State University and CSU, Hayward were competitively selected in 1986/87 to implement these projects in partnership with the San Diego Unified School District and the Oakland Unified School District, respectively. San Francisco State University, in conjunction with the San Francisco Unified School District and a partnership composed of CSU, Los Angeles, CSU, Dominguez Hills and the Los Angeles Unified School District, has been selected to establish New Teacher Retention programs in 1988/89.

The evaluation of the New Teacher Retention effort was conducted by Southwest Regional Educational Laboratory. The evaluation report indicates that the one-year retention rates of roughly 90 percent of the beginning teachers in the program far exceed the retention rates of new teachers in urban areas elsewhere in the U.S.

The pedagogical effects of the training were similarly impressive. *By the end of their first year as regular classroom teachers, the participating new teachers were performing in a manner which matched that of highly successful experienced teachers.* For example, their skill levels in the areas of classroom organization and management, class discussion and participation, clarity of explanations, task engagement, and self-evaluation were well above those of the average new teacher. In addition, the project contributed to reduced new teacher isolation and to new teacher enthusiasm and commitment.

Master Teacher Training

The Master Teacher Training program, supported from 1985/86 through 1988/89 by lottery funds, is designed to improve the skills of master teachers who supervise CSU student teachers on a daily basis. It has two major components:

Short-term training of master teachers in clinical supervision through 15-hour workshops, for which participants receive a \$225 stipend.

Scholarship program which provides fee reimbursements to master teachers for up to six units of coursework in clinical supervision and curriculum.

In the first three years of the program, 7,605 master teachers systemwide participated in the short-term training workshops, another 874 participated in advanced level workshops, and over 3,000 master teachers received scholarships.

Fa. West Laboratory for Educational Research and Development reported that a well-developed program of skill training for master teachers has been organized on CSU campuses. The evaluation study found: a) better prepared beginning teachers; b) improved ability of master teachers to supervise; c) enriched supervision experience of student teachers and beginning teachers; d) increased understanding, commitment and use of clinical supervision techniques; e) professionalization of the roles of supervising master teachers and university supervisors; f) increased recognition for the task of supervision; g) clarification of supervision roles; h) increased development of supervision materials, and i) closer ties between universities and school districts.

Subject Matter Competence

Recent state and national attention has focused upon beginning teacher competence, particularly in the subjects to be taught. Between 1986 and the present, several legislative initiatives in California have addressed assessment of the subject matter knowledge of prospective teachers. Many of these have called for passage of a state standardized test of subject matter as a credential requirement. As these legislative proposals were discussed, the CSU supported subject matter assessment conducted by the faculty as an alternative to a state standardized examination.

In September 1985, the Board of Trustees adopted Title 5 regulations setting minimum systemwide entry and exit standards for basic teaching credential programs, and Executive Order 476 set forth the implementation of this comprehensive assessment policy. One aspect of the policy stipulates that it is the responsibility of the disciplines offering the academic majors for prospective teachers to assess the prospective teacher's subject matter competence.

Recognizing that CSU campuses might need assistance in developing the content and process for assessing subject matter competence, the statewide Academic Senate requested that the Chancellor's Office sponsor activities to support campus development of assessment approaches. In response, the Chancellor's Office established two faculty workgroups which developed two subject matter assessment resource guides, one for prospective English teachers and one for prospective elementary school teachers.

Each guide includes a statement of assessment principles, as well as sample subject matter competencies, including several related to multicultural content. Methods and models for a full range of subject matter assessments are described in the guides.

Two conferences were held to disseminate the guides and to gather and discuss information on assessment issues. Each conference involved over one hundred faculty, academic administrators, school teachers, administrators, and representatives of state education agencies. The guides *Subject Matter Assessment of Prospective English Teachers* (CSU, August 1987) and *Resource Guide: Subject Matter Assessment of Prospective Elementary School Teachers* (CSU, April 1988) are among the first attempts nationally to spell out the specific subject area competencies expected of beginning teachers. These pioneering efforts are already in heavy demand. Currently, campuses are at different stages in implementing this new and complex process. A variety of assessment methods and instruments are being developed and tested on the campuses. These efforts should be useful in developing assessment processes that may serve as alternatives to state examinations. In addition, assessment provides direct feedback to faculty on the knowledge and skill levels of their students. This information provides the basis for improvements in the curriculum and instructional program.

Credential Legislation

During the last four years, there have been several legislative initiatives to revise California's credentialing system. SB 148, authored by Senator Marian Bergeson, was adopted by the Legislature on August 31, 1988 and signed by the Governor. Through SB 148, new concepts for state credentialing have been introduced.

The California State University has supported this legislation, recognizing that the bill identifies important reforms and represents a fair balance between the interests of higher education and other education agencies and organizations.

Prior to August 29, 1988 when the bill was substantially amended, it established new credential requirements to be effective in approximately five years, these requirements included beginning teacher support programs and assessment for certification. However, the final version of the bill indicated only the legislative intent that credential requirements for beginning teacher support and assessment be established. These amendments were at the behest of the Department of Finance and, thereafter, the Governor and were based on concerns about the long-term cost of implementing these requirements. However, the final bill sets directions for future changes in the California credentialing system.

Features of SB 148 include.

- Legislative intent to shift toward assessment of individual credential candidates and away from state program review as a means of assuring the public of beginning teacher competence. This direction could potentially reduce state regulation of preparation programs. A variety of assessments will be developed and field tested.
- A recognition that beginning teachers are novices and need support during their first years of teaching. Beginning teacher support programs will be piloted.
- Legislative intent to move toward a non-governmental model of program evaluation in place of state program review.
- A system of governance for credentialing with increased participation of practicing teachers.
- A strengthening of credential requirements for emergency teaching credentials.

Future requirements for new teacher support and assessment will be shaped by the evaluation of pilot projects established by the Commission on Teacher Credentialing and the State Department of Education. Seven CSU campuses are involved in the projects for support of beginning teachers. In addition, a CSU Consortium for Teacher Assessment is being formed for the purpose of developing and testing models for assessment of prospective and new teachers.

Conclusion

The California State University efforts to improve teacher education are well underway. New policies and promising programs have been implemented, and evaluation results to date point to substantial accomplishments. The quality of students has improved with the implementation of the CSU standards for the admission to and exit from basic teaching credential programs adopted by the Board of Trustees in 1985. The numbers of students in teaching credential programs have increased sharply.

The Chancellor's Advisory Committee on Teacher Education has identified eight issues that will require ongoing attention. These are:

- Expanding efforts to attract and retain minority students to the teaching profession,
- Ensuring that campuses are planning teacher education enrollments to correspond, insofar as possible, with demand for new teachers — and planning at the system level to avoid widespread program impaction, if possible;
- Establishing teacher education as a priority in campus mission and in planning, decision-making, and resource allocation,
- Enhancing the status and image of teacher education,
- Continuing to improve the ways in which teachers are prepared and the ways in which teaching and subject area competencies are assessed,
- Continuing to improve the ways in which teachers are prepared and the ways in which teaching and subject area competencies are assessed,
- Continuing to improve relations between universities and schools;
- Ensuring that unique funding requirements of teacher preparation are appropriately recognized and that funding is targeted to achieve maximum benefits.

Appendix C

NOTE The following standards are quoted from *Adopted Standards of Program Quality and Effectiveness and Draft Factors to Consider for Professional Teacher Preparation Programs for Multiple and Single Subject Credentials*, Commission on Teacher Credentialing, May 25, 1988

Category I: Institutional Resources and Coordination

Standard 1 *Program Design, Rationale and Coordination*

Each program of professional preparation is coordinated effectively in accordance with a cohesive design that has a cogent rationale

Standard 2 *Institutional Attention to the Program*

The institution gives ongoing attention to the effective operation of each program, and resolves each program's administrative needs promptly

Standard 3 *Resources Allocated to the Program*

The institution annually allocates sufficient resources to enable each program to fulfill the Standards in Categories I through V

Standard 4 *Qualifications of Faculty*

Qualified persons teach all courses and supervise all field experiences in each program of professional preparation

Standard 5 *Faculty Evaluation and Development*

The institution evaluates regularly the quality of courses and field experiences in each program, contributes to the faculty development, recognizes and rewards outstanding teaching in the program, and retains in the program only those instructors and supervisors who are consistently effective

Standard 6 *Program Evaluation and Development*

The institution operates a comprehensive, ongoing system of program evaluation and development that involves program participants and local practitioners, and that leads to substantive improvements in each program. The institution provides opportunities for meaningful involvement by community members in program evaluation and development of decisions

Category II: Admission and Student Services

Standard 7 *Admission of Candidates Academic Qualifications*

As a group, candidates admitted into the program each year have attained the median or higher in an appropriate comparison population on one or more indicators of academic achievement selected by the institution

Standard 8 *Admission of Candidates Pre-Professional Qualifications*

Before admitting candidates into the program, the institution determines that each individual has personal qualities and pre-professional experiences that suggest a strong potential for professional success and effectiveness as a teacher

Standard 9 *Availability of Program Information*

The institution informs each candidate in the program about a) all requirements, standards and procedures that affect candidates' progress toward certification, and b) all individuals, committees and offices that are responsible for operating each program component

Standard 10 *Candidate Advisement and Placement*

Qualified members of the institution's staff are as

signed and available to advise candidates about their academic, professional and personal development as the need arises, and to assist in their professional placement

Standard 11 *Candidate Assistance and Retention*

The institution identifies and assists candidates who need academic, professional or personal assistance. The institution retains only those candidates who are suited to enter the teaching profession and who are likely to attain the standards of Candidate competence and Performance in Category V

Category III: Curriculum

Standard 12 *Preparation for Teaching Responsibilities*

Prior to assuming daily teaching responsibilities, each candidate in the program has adequate opportunities to acquire knowledge and skills that underlie the Standards of Competence and Performance in Category V. The program offers adequate opportunities to learn knowledge and skills that are pertinent to Standards 22 through 30 as they relate to the teaching of a) subjects to be authorized by the credential, and to communication skills including reading

Standard 13. *Development of Professional Perspectives*

Prior to or during the program, each candidate demonstrates an understanding of essential themes, concepts and skills related to the subject(s) to be taught, including knowledge of the history and traditions of the field, its role in the curriculum of public education, and the ethical issues embedded in it. Each candidate develops a professional perspective by examining contemporary schooling policies and teaching practices in relation to fundamental issues, theories and research in education

Standard 14 *Orientation to Human Development and Equity*

Prior to or during the program, each candidate is oriented to common traits and individual differences that characterize children and adolescents

during several periods of development. Each candidate examines principles of educational equity and analyzes the implementation of those principles in curriculum content and instructional practices

Standard 15 *Preparation for Crosscultural Education*

Prior to or during the program, each candidate engages in crosscultural study and experience, including study of language acquisition and experience with successful approaches to the education of linguistically different students

Category IV: Field Experiences

Standard 16 *Collaboration with Local Educators*

The institution collaborates with local school administrators and teachers in the election of excellent training schools and supervising teacher, and in the placement of candidates in appropriate field settings

Standard 17 *Field Experience Prior to Teaching*

Before assuming daily teaching responsibilities, each candidate in the program has one or more supervised field experiences that a) relate to the candidate's professional goals, b) provide opportunities to interrelate theories and practices, c) prepare the candidate for daily teaching responsibilities, and d) enable the program staff to determine when the candidate is ready for daily teaching duties

Standard 18 *Advancement to Daily Teaching Responsibilities*

In each program, advancement to daily teaching responsibilities is limited to candidates who are ready for such responsibilities, have demonstrated proficiency at basic academic skills, and have either a) attained the Commission's standard for advancement on the relevant subject matter examination approved by the Commission or b) completed at least four-fifths of a program of subject matter preparation that waives this examination

Standard 19 *Qualifications and Recognition of Supervising Teachers*

Each classroom teacher who supervises one or more student teachers is a) certifies and experienced in

teaching the subject(s) of the class, b) trained in supervision and oriented to the supervisory role, and c) appropriately evaluate, recognized and rewarded by the institution

Standard 20 *Guidance, Assistance and Feedback*

Throughout the course of the student teaching, each candidate's performance is guided, assisted and evaluated in relation to each Standard in Category V by at least one supervising teacher and at least one institution supervisor, who provide complete, accurate and timely feedback to the candidate.

Standard 21 *Determination of Candidate Competence*

Prior to recommending each candidate for a teaching credential, one or more persons who are responsible for the program determine, on the basis of thorough documentation and written verification by at least one supervising teacher and one institutional supervisor, that the candidate has attained Standards 22 through 30 as they relate to the teaching of a) subjects to be authorized by the credential and b) communication skills including reading

Category V: Candidate Competence and Performance

Standard 22 *Student Rapport and Classroom Environment*

Each candidate established and sustains a level of student rapport and a classroom environment that promotes learning and equity, and that foster mutual respect among the persons in a class

Standard 23 *Curricular and Instructional Planning Skills*

Each candidate prepares at least one unit plan and several lesson plans that include goals, objectives, strategies, activities, materials and assessment plans that are well defined and coordinated with each other

Standard 24 *Diverse and Appropriate Teaching*

Each candidate prepares and uses instructional

strategies, activities and materials that are appropriate for students with diverse needs, interests and learning styles

Standard 25 *Student Motivation, Involvement and Conduct*

Each candidate motivates and sustains student interest, involvement and appropriate conduct equitably during a variety of class activities

Standard 26 *Presentation Skills*

Each candidate communicates effectively by presenting ideas and instructions clearly and meaningfully to students

Standard 27 *Student Diagnosis, Achievement, and Evaluation*

Each candidate identifies students' prior attainments, achieves significant instructional objectives, and evaluates the achievements of the students in a class

Standard 28 *Cognitive Outcomes of Teaching*

Each candidate improves the ability of students in a class to evaluate information, think analytically, and reach sound conclusions

Standard 29 *Affective Outcomes of Teaching*

Each candidate fosters positive student attitudes toward the subjects learned, the students themselves, and their capacity to become independent learners

Standard 30 *Capacity to Teach Crossculturally*

Each candidate demonstrates compatibility with, and ability to teach, students who are different from the candidate. The differences between students and the candidate should include ethnic, cultural, gender, linguistic and socio-economic differences

Standard 31 *Readiness for Diverse Responsibility*

Each candidate teaches students of diverse ages and abilities, and assumes the responsibilities of full-time teachers

Standard 32 *Professional Obligations*

Each candidate adheres to high standards of professional conduct, cooperates effectively with other

adults in the school community, and develops professionally through self-assessment and collegial interactions with other members of the profession

Appendix D

Letter from Ami Zusman, University of California,
to Cathrine Castoreno, California Postsecondary Education
Commission, November 2, 1988

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Letter from Jan Mendelsohn, The California State University,
to Cathrine Castoreno, California Postsecondary Education
Commission, November 2, 1988

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DAVID PIERPONT GARDNER
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BERKELEY CALIFORNIA 94720

WILLIAM R. FRAZER
Senior Vice President—
Academic Affairs

2 November, 1988

Cathrine Castoreno
Legislative and Budget Analyst
California Postsecondary Education Commission
1020 Twelfth Street, 3rd Floor
Sacramento, CA 95814-3985

Dear Cathrine:

As agreed, I am enclosing a draft list of costs associated with teaching credential programs, as part of the information CPEC has requested for its study of UC programs of teacher education. I have discussed these cost elements with both University budget office staff and several campus Education heads; however, I intend to discuss these cost elements with additional people before I am satisfied that the list is complete.

Please call me if you have questions about this list.

Cordially,

Ami

Ami Zusman
Principal Analyst
University-School
Education Improvement

cc: Associate Vice President Moore
Assistant Vice President Cota-Robles
Director Justus
Principal Analyst McKellar

COSTS ASSOCIATED WITH TEACHING CREDENTIAL PROGRAMS

- A. Personnel
 - Faculty (provide course instruction, advising, supervision, research and evaluation of teacher education)
 - Supervisors of teacher education (STEs) (provide supervision of student-teachers, placement and coordination activities, visits to school sites)
 - Administrative staff: Education deans; teacher education directors; program coordinators
 - Counseling staff
 - Support staff
 - Benefits
- B. Program activities
 - Curriculum development (including costs of faculty released time)
 - Stipends to classroom master teachers who supervise UC student-teachers
 - Master teacher workshops
 - Use of K-12 school resource personnel as consultants and advisory committee members (e.g., to develop curriculum, evaluate programs)
 - Research on teacher education
 - Program evaluation
 - Training of future university teacher education faculty (e.g., by employing and supervising graduate students as STEs)
 - Transportation costs of STEs' visits to school sites
 - Participation by certain UC faculty in the schools (through faculty released time) (State requirement)
 - Other special, State-required costs (e.g., development of computer education facilities and coursework)
- C. Program enrichment costs
 - Collaborative activities with the schools, other UC academic units, and/or outside agencies
 - Special conferences (e.g., on multicultural education)
 - Grant development and other program reforms (through faculty released time)
- D. Equipment, materials, supplies, and other costs
 - Room/space costs
 - Maintenance
 - Office costs (xeroxing, mail, telephone, etc.)
 - Office equipment (word processors, etc.)
 - Special equipment (e.g., purchase and maintenance of computers and computer facilities, language labs, videotape equipment)
- E. Libraries
- F. Institutional support
 - Campus and systemwide management and administration

THE CALIFORNIA STATE UNIVERSITY

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OFFICE OF THE CHANCELLOR
(213) 590-

November 2, 1988

Ms. Cathrine Castoreno
Legislative and Budget Analyst
California Postsecondary Education Commission
1020 Twelfth Street, Third Floor
Sacramento, California 95814-3985

Re: Requested Information for CPEC Study of Teacher Education

Dear Cathrine:

Attached is The California State University list of Components Contributing to the Cost of Professional Preparation Programs. I hope it will be helpful.

It is important to note that the list may not be exhaustive since the time frame for preparation was quite short. Should other major cost items or amendments come to my attention, I will contact you.

You should be receiving program descriptions requested from four or five campuses by November 15, 1988. Please contact me if you have questions.

Sincerely,

Jan Mendelsohn
Associate Dean
Academic Affairs, Plans

JM:kp

cc: Dr. Ronald S. Lemos
Dr. Sally Loyd Casanova

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The California State University
Components Contributing To the Cost of
Professional Preparation Programs

Instructional Costs - including faculty

Average class size

Average number student teachers supervised per full time
faculty position and average number of students supervised in
other required field experiences

Average student credit units generated by faculty

Hours per week of faculty contact for each student

Department Chairs

Faculty Development and Professional Memberships

Instructional Supplies and Equipment

Library and Instructional Media

Faculty Salaries and Benefits Levels

Normal Support Generated for Each Faculty Position

 Clerical Support for Faculty

 Equipment and Furniture

 Sabbaticals

Faculty Travel - for both professional development and travel
involved in supervision, school service, SB 813 Faculty
Participation, etc.

Faculty Computing

Faculty Advisement

Faculty Involvement in Admissions Process, i.e. interviews,

Student Teaching Placement Coordinators

Faculty Participation in the Schools (SB 813)

Faculty Research and Service to the Schools

Student Services - Out of Classroom

Advisement

Credential Counseling

Admissions and Exit Counseling

Educational Placement Centers

Administration

Pro-rata share of university costs

Dean's Office - professional and support staffing

Department Office(s) - professional and support staffing

Credentials Office and Services - professional and support staffing

Teacher Education Data System (TEDS)

Operational Costs

Postage

Printing

Supplies and Services

In State and Out of State Travel

Facilities and Maintenance

Equipment

Utilities and Telephones

Contracts

Program Features Requiring Expenditures Beyond Regular Faculty Staffing

Computer Education Requirements

Extensive Field Experiences

Master Teacher Honoraria

Master Teacher Training (Scholarships and Stipends)

Collaboration with public schools and academic departments

•
•
State Supported Special Programs

New Teacher Retention in Inner City Schools

Comprehensive Teacher Institutes

Clinical Professors Program

Indian Teacher Education

Brain Hemisphere Education

Child Development Centers and Nursery Schools

Teacher Recruitment

Program Evaluation

Program development and review in response to internal and external requirements and initiatives

NCATE Accreditation

CTC Program Approval Preparation and Reviews

November 1, 1988

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Appendix E

STATE OF CALIFORNIA

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

1020 TWELFTH STREET
SACRAMENTO CALIFORNIA 95814

OFFICE OF THE DIRECTOR

(916) 445-1000

GEORGE DEUKMEJIAN, *Governor*



April 28, 1988

Mr. Harold Geioque
Principal Program Analyst
Legislative Budget Committee
925 L Street, Suite 650
Sacramento, California 95814

Dear Hal:

The Report of the Legislative Analyst on the 1988-89 Budget Bill requested the Postsecondary Education Commission to comment on the University of California's graduate enrollment plan. As you know, Bruce Hamlett has had extensive discussions with Stuart Marshall in response to this request. Enclosed is a written summary of our comments on the University's graduate enrollment plan, as you requested.

If you have any questions on these comments, please contact me.

Cordially,

Bill

William H. Pickens
Executive Director

WHP/kc

Enclosure

California Postsecondary Education Commission Comments on the Graduate Enrollment Plan of the University of California

The Postsecondary Education Commission was requested by the Legislative Analyst Office to comment on the graduate enrollment plan of the University of California, with particular attention to be given to the "balance" between undergraduate and graduate students. The following comments are presented in response to this request:

1. The graduate enrollment plan prepared by the University of California in 1987 is a responsible effort to project and allocate graduate enrollments by campus through the next decade. In making these projections, it takes into account a complex range of variables and makes use of as much statistical and empirical evidence as can reasonably be expected. Unlike earlier plans, for example, there is a thorough discussion of employment prospects for doctorates in all the major disciplines. While the plan contains no record of the placement experience of recent University graduates, it does present convincing evidence of favorable prospects for academic employment in all disciplines during the next decade. To its credit, however, the plan does not call for equal increases in all fields immediately. Increases in the social sciences and humanities are to be phased in after 1990.
2. The planning principles used to guide the development of the plan are appropriate, as they include societal needs for research and advanced training, affirmative action, selectivity and program quality, and balance. In the plan, balance refers to (1) the proportion of graduate students to undergraduate students, (2) within the graduate program, the appropriate mix of academic core (letters and science) and professional programs, and (3) the proportion of foreign graduate students to domestic students in selected disciplines such as computer science and engineering. The plan seeks to achieve an equilibrium among these ratios, all the while acknowledging that achieving such balance on each campus is "an art of institutional development."
3. No consensus exists among major research universities around the country about the appropriate balance between graduate and undergraduate enrollments. Among the major research universities in the country, wide variation exists in the ratio of graduate to undergraduate enrollments, ranging from over 50 percent at the University of Chicago to 26 percent at the University of Illinois (Other ratios include Princeton, 37 percent; University of Michigan, 47 percent; Yale University, 50 percent; University of Pennsylvania, 64 percent.) The University of California generally has a lower ratio than most comparable research universities nationwide.
4. Within the multicampus structure of the University of California, considerable variation exists among the campuses in the graduate-undergraduate balance. The plan proposes a systemwide minimum of 15 percent graduate enrollment with a target goal of 15 percent to 18 percent. Some campuses would not arrive at the target levels for years; others, namely Berkeley and UCLA, would remain

considerably above the 18 percent level. Currently, the range is from close to 40 percent at Berkeley and UCLA to 7 percent at Santa Cruz. Actual 1986-87 enrollments show the following percentages of graduate to undergraduate enrollments within the University:

Berkeley - 39.9%
Davis - 23.8%
Irvine - 13.5%
Los Angeles - 38.8%
Riverside - 31.1%
San Diego - 13.2%
Santa Barbara - 12.8%
Santa Cruz - 7.1%

5. In addition to the overall ratio of 18 percent graduate students, two other concepts enter into the principle of balance: (1) a 60/40 ratio of letters and science students to those in professional schools (for example, business, education, and engineering); and (2) an 80 to 85 percent proportion of undergraduate students in letters and science disciplines. Applying these ratios would lead to overall percentages of 11 to 14 percent of total campus enrollment consisting of graduate students in academic core disciplines. Again, this is a goal that will not be reached on some campuses, (for example, Santa Cruz), until after the year 2000. Establishing a ratio or balance such as this involves an academic judgment concerning the relative emphasis to be placed on various fields of study. Commission staff finds these ratios between academic and professional fields in the University to be appropriate.
6. With a projected increase of 20 percent in undergraduate enrollments by the year 2000, an overall increase of 27 percent in graduate enrollment will be necessary to achieve the proposed percentages. Accepting the assurances in the plan that it is intended to be flexible and agreeing in general with the assumptions on which these projections are based and in the absence of any experience or evidence to the contrary, we support this figure as a reasonable estimate of necessary growth in graduate enrollments within the University. Moreover, given the need to replace a large portion of California's college and university faculty during the next three decades because of retirement, the growth in the number of graduate students is responsive to future demands for individuals with graduate degrees and should include more women and ethnic minorities in the various academic disciplines.

References

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The California State University, Office of the Chancellor *Teaching Credential Executive Order No 476* Long Beach Office of the Chancellor

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Commission on Teacher Credentialing *Adopted Standards of Program Quality and Effectiveness and Draft Factors to Consider for Professional Teacher Preparation Programs for Multiple and Single Subject Credentials* Sacramento The Commission, May 1988c

University of California, Office of the President *Graduate Enrollment Plan for 1985-86 Through 2000-01* Berkeley Office of the President, 1987a

University of California, Office of the President *University of California Plan for the Field of Education to the Year 2000 A Report Submitted in Response to AB 1418* Berkeley Office of the President, 1987b

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

THE California Postsecondary Education Commission is a citizen board established in 1974 by the Legislature and Governor to coordinate the efforts of California's colleges and universities and to provide independent, non-partisan policy analysis and recommendations to the Governor and Legislature

Members of the Commission

The Commission consists of 15 members. Nine represent the general public, with three each appointed for six-year terms by the Governor, the Senate Rules Committee, and the Speaker of the Assembly. The other six represent the major segments of postsecondary education in California.

As of April 1989, the Commissioners representing the general public are

Mim Andelson, Los Angeles,
C. Thomas Dean, Long Beach,
Henry Der, San Francisco,
Seymour M. Farber, M.D., San Francisco,
Helen Z. Hansen, Long Beach,
Lowell J. Paige, El Macero, *Vice Chair*,
Cruz Reynoso, Los Angeles,
Sharon N. Skog, Palo Alto, *Chair*, and
Stephen P. Teale, M.D., Modesto

Representatives of the segments are

Yori Wada, San Francisco, appointed by the Regents of the University of California,

Theodore J. Saenger, San Francisco, appointed by the Trustees of the California State University,

John F. Parkhurst, Folsom, appointed by the Board of Governors of the California Community Colleges,

Harry Wugalter, Thousand Oaks, appointed by the Council for Private Postsecondary Educational Institutions,

Francis Laufenberg, Orange, appointed by the California State Board of Education, and

James B. Jamieson, San Luis Obispo, appointed by the Governor from nominees proposed by California's independent colleges and universities

Functions of the Commission

The Commission is charged by the Legislature and Governor to "assure the effective utilization of public postsecondary education resources, thereby eliminating waste and unnecessary duplication, and to promote diversity, innovation, and responsiveness to student and societal needs."

To this end, the Commission conducts independent reviews of matters affecting the 2,600 institutions of postsecondary education in California, including community colleges, four-year colleges, universities, and professional and occupational schools.

As an advisory planning and coordinating body, the Commission does not administer or govern any institutions, nor does it approve, authorize, or accredit any of them. Instead, it cooperates with other State agencies and non-governmental groups that perform these functions, while operating as an independent board with its own staff and its own specific duties of evaluation, coordination, and planning.

Operation of the Commission

The Commission holds regular meetings throughout the year at which it debates and takes action on staff studies and takes positions on proposed legislation affecting education beyond the high school in California. By law, the Commission's meetings are open to the public. Requests to speak at a meeting may be made by writing the Commission in advance or by submitting a request prior to the start of the meeting.

The Commission's day-to-day work is carried out by its staff in Sacramento, under the guidance of its executive director, Kenneth B. O'Brien, who is appointed by the Commission.

The Commission publishes and distributes without charge some 40 to 50 reports each year on major issues confronting California postsecondary education. Recent reports are listed on the back cover.

Further information about the Commission, its meetings, its staff, and its publications may be obtained from the Commission offices at 1020 Twelfth Street, Third Floor, Sacramento, CA 95814-3985, telephone (916) 445-7933.

TEACHER PREPARATION PROGRAMS OFFERED BY CALIFORNIA'S PUBLIC UNIVERSITIES

California Postsecondary Education Commission Report 89-12

ONE of a series of reports published by the Commission as part of its planning and coordinating responsibilities. Additional copies may be obtained without charge from the Publications Office, California Postsecondary Education Commission, Third Floor, 1020 Twelfth Street, Sacramento, California 95814-3985

Recent reports of the Commission include

88-40 The Fourth Segment Accredited Independent Postsecondary Education in California. The Fifth in a Series of Reports on the Financial Condition of California's Regionally Accredited Independent Colleges and Universities (December 1988)

88-41 Beyond Assessment Enhancing the Learning and Development of California's Changing Student Population. A Report in Response to the Higher Education Talent Development Act of 1987 (Assembly Bill 2016, Chapter 1296, Statutes of 1987) (December 1988)

88-42 The Role of the Commission in Achieving Educational Equity. A Declaration of Policy (December 1988)

88-43 Education Needs of California Firms for Trade in Pacific Rim Markets. A Staff Report to the California Postsecondary Education Commission (December 1988)

88-44 Progress on the Development of a Policy for Revenue Collected by the California State University Through Concurrent Enrollment. A Report to the Legislature in Response to Supplemental Language to the 1988-89 Budget Act (December 1988)

88-45 Prepaid College Tuition and Savings Bond Programs. A Staff Report to the California Postsecondary Education Commission (December 1988)

89-1 Legislative Priorities for the Commission, 1989. A Report of the California Postsecondary Education Commission (January 1989)

89-2 The Twentieth Campus. An Analysis of the California State University's Proposal to Establish a Full-Service Campus in the City of San Marcos in Northern San Diego County (January 1989)

89-3 Toward Educational Equity. Progress in Implementing the Goals of Assembly Concurrent Resolution 83 of 1984. A Report to the Legislature in Response to Assembly Bill 101 (Chapter 574, Statutes of 1987) (January 1989)

89-4 The Effectiveness of the Mathematics, Engineering, Science Achievement (MESA) Program's Administrative and Policy-Making Processes. A Report to the Legislature in Response to Assembly Bill 610 (1985) (January 1989)

89-5 Comments on the Community Colleges' Study of Students with Learning Disabilities. A Report to the Legislature in Response to Supplemental Report Language to the 1988 State Budget Act (January 1989)

89-6 Prospects for Accommodating Growth in Postsecondary Education to 2005. Report of the Executive Director to the California Postsecondary Education Commission, January 23, 1989 (January 1989)

89-7 State Budget Priorities of the Commission, 1989. A Report of the California Postsecondary Education Commission (March 1989)

89-8 Status Report on Human Corps Activities, 1989. The Second in a Series of Five Annual Reports to the Legislature in Response to Assembly Bill 1820 (Chapter 1245, Statutes of 1987) (March 1989)

89-9 A Further Review of the California State University's Contra Costa Center (March 1989)

89-10 Out of the Shadows -- The IRCA/SLIAG Opportunity. A Needs Assessment of Educational Services for Eligible Legalized Aliens in California Under the State Legalization Impact Assistance Grant Program of the Immigration Reform and Control Act of 1986, submitted to the California Postsecondary Education Commission, February 23, 1989, by California Tomorrow (March 1989)

89-11 Faculty Salaries in California's Public Universities, 1989-90. A Report to the Legislature and Governor in Response to Senate Concurrent Resolution No. 51 (1965) (March 1989)

89-12 Teacher Preparation Programs Offered by California's Public Universities. A Report to the Legislature in Response to Supplemental Language in the 1988 State Budget Act (March 1989)

89-13 The State's Reliance on Non-Governmental Accreditation. A Report to the Legislature in Response to Assembly Concurrent Resolution 78 (Resolution Chapter 22, 1988) (March 1989)

89-14 Analysis of the 1989-90 Governor's Budget. A Staff Report to the California Postsecondary Education Commission (March 1989)